CIVIL AVIATION AUTHORITY

CAP 642

AIRSIDE SAFETY MANAGEMENT

CIVIL AVIATION AUTHORITY, LONDON

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General Contents

THE AIR NAVIGATION ORDER

References within the text of CAP 642 are to the Air Navigation (No. 2) Order 1995. As and when the Order is revoked and/or amended, references in CAP 642 shall be taken to refer to the equivalent articles involved in any consequential re-numbering.

Similarly, where other parts of the text refer to Statutory Instruments, regulation or other provision, these shall be taken to be references current at the time of the original publication of this document.

Introduction

1 ORIGIN

CAP 642 has been produced in response to a need for guidance about safe operating practices for all those engaged in activities taking place on the airside areas of airports and aerodromes. The airline and airport industry and their safety regulators have been concerned about the level and extent of damage caused to aircraft during ground handling and also about the high rate of 'occurrences' and the associated safety risks for aircraft, passengers and airport workers. This concern is shared internationally by various groups and organisations. With the support of industry and the UK Health and Safety Executive (HSE), the UK Civil Aviation Authority (CAA) established a joint Working Group (WG) to look at specific issues concerning aircraft and individual safety in the ground handling phase of airport operations. This move was in accordance, generally, with the views of the UK's Air Accident Investigation Branch. The WG set itself the task of reviewing ground handling airside operations and airside safety with the objective of seeking to identify problems and solutions.

The WG decided firstly that it had to work closely with industry in order to use the experience, expertise and imagination of those working 'hands on' in airside operations and, secondly, that it should collect a comprehensive range of opinions from industry about the underlying causes of problems before attempting to develop solutions. The WG consulted widely amongst the various interest groups concerned directly and indirectly with safety in airside operations. The task of the WG was to order the information so gained into suitable topic areas and then to submit each topic package to a formal industry consultation process for approval and comment before acceptance.

The resultant document is the creation of the whole industry and has the acceptance of the regulatory authorities responsible for overseeing the safety of aircraft and individuals on airports.

2 PURPOSE

The advice and guidance in CAP 642 is best described as 'Accepted Good Practice' and represents an acceptable way of doing things. It illustrates how risks might be identified and provides advice about how airside safety can be placed within the context of a systematic and structured management approach – a Safety Management System.

It is impossible to guarantee that adherence to CAP 642 will always satisfy all regulatory requirements under all possible circumstances. This is simply because service providers themselves are ultimately responsible for deciding on the appropriateness and applicability of any particular safety arrangements with respect to their own specific circumstances. CAP 642 illustrates the sort of things which organisations are expected to consider in the interests of airside safety; it is not intended to be totally comprehensive in the detail provided. CAP 642 does not absolve those responsible for securing a safe operating and working environment from thinking for themselves. It indicates the safety organisational elements which, if provided, will help persuade regulatory bodies that the effort to discharge safety accountabilities under the law is effective, well directed and responsible.

Nevertheless, the compilers of CAP 642 have sought to give good coverage to those operational situations which contain elements of risk and which might be considered commonplace. For a number of these, the document provides practical examples, through a series of model safety instructions, which can be utilised by airports as the basis for their own orders and instructions.

Where examples are not provided or material to cover a particular situation is not included it is expected that users will be guided by the general principles set out and illustrated in order to identify and create the circumstances of a safe working and operating environment appropriate to their own requirements.

3 APPLICABILITY

CAP 642 is intended as a guide to accepted practice for all those engaged in working on and around the operational areas of airports, aerodromes or heliports: in fact, anywhere where aircraft are attended and handled. That is, it applies to everybody working airside. Whilst CAP 642 is primarily aimed at Licensed Aerodromes, it is equally applicable in most cases to Unlicensed Aerodromes. In these cases the term 'Aerodrome Licensee' should be read as 'Person in charge of the aerodrome'. Any organisation, regardless of size or complexity of operation, can establish an acceptable Safety Management System through the application of the general principles outlined in the following Parts of CAP 642.

4 THE STATUS OF CAP 642

CAP 642 is not a legal document but represents an accepted way of organising and operating safe working practices and which is endorsed by Industry. The CAA, as part of the ongoing aerodrome licensing process, in conducting its routine inspections and audits of the airside safety environment will lean heavily on these guidelines. The CAA, with endorsement from the HSE, makes it clear that the general principles, processes and procedures set out within CAP 642 form the basis of acceptable safety arrangements airside. It is accepted that the principle of an equivalent level of safety – that is the achievement of a safe operating regime by a method other than that recommended – is an acceptable means of compliance with statutory responsibilities.

Parts 1 and 2 of CAP 642 stem directly from legislation protecting workers and members of the public affected by work activities. The legislation frequently requires employers to take certain actions but that requirement is often qualified by the phrase 'so far as is reasonably practicable'. This basically means that the action taken must allow for the amount of risk placed on one side of the scale and the sacrifice (money, time, trouble) needed to avert the risk on the other side of the scale. In other instances there may be a duty on employers to undertake an assessment and then take the action identified by the assessment. It is also necessary to ensure that the action taken is proportional to the risk.

In Parts 3–7 (of CAP 642) there are references to requirements that are additional to the requirements of the HSE. The additional requirements are needed to ensure aerodrome safety.

5 COMPLIANCE WITH STATUTORY REQUIREMENTS

The requirements for the safe operation of aerodromes, with respect to aircraft safety, and for the safety of individuals at their places of work are contained within formal legislative requirements which form part of United Kingdom law. It is therefore legally incumbent on those who provide the workplace, all employers and all employees to comply with the safety requirements that are set out in the relevant statutory instruments. Nothing in CAP 642 substitutes the requirements of the law.

Concern is sometimes expressed by those responsible for securing safety airside at airports about the apparent overlap of regulatory responsibility between the Civil Aviation Authority and the Health and Safety Executive. The area of responsibility for the two regulatory bodies is clear; the CAA is responsible for securing adequate provision for the safety of aircraft and the HSE is responsible for securing adequate provisions for the safety of individuals in the work place. These responsibilities can, of course, overlap; for example, when a piece of equipment is maintained in such a way that, through incorrect functioning, it hazards its operator whilst also causing damage to an aircraft. However, it is the declared intention of the CAA and the HSE to work together to resolve any overlaps and to detect any potential areas where neither has assumed responsibility.

Users of CAP 642 must be aware of further statutory provisions covering, for example, the duty to report aircraft accidents and certain occurrences. It is the responsibility of all those involved with the operation of airports, aircraft and the provision of services to be familiar with any legal obligations which arise from such activities.

6 THE AIR NAVIGATION ORDER

The Air Navigation Order (No.2) 1995 (The Order) is the principal statement of detailed legislative requirements for the regulation of UK civil aviation. The Order is made under provisions contained in Section 60 of the Civil Aviation Act 1982, and forms part of the criminal law. ICAO Standards form the basis of many of the requirements set out in the Order.

The principal points of interest with respect to CAP 642 relate to the requirements about which the CAA will need to be satisfied before it will grant an aerodrome licence. These are set out in Articles contained in Part X of The Order.

7 CAP 168 LICENSING OF AERODROMES

CAP 168 is essentially a minimum requirements statement of what the CAA will require with respect to the physical characteristics of aerodrome licensing in order to be satisfied about safety. CAP 168 is based almost exclusively upon the Standards and Recommended Practices of ICAO Annex 14.

Documents like CAP 168 may be referred to as guidance material. They are not part of the law, unless conditions are placed on the aerodrome licence requiring compliance with a particular provision of the guidance document. Otherwise, failure to comply with the guidance material will not in itself be a criminal offence but may indicate a failure to comply with a general obligation or duty contained in the legislation. In the event of a prosecution for failure to comply with that general duty, the guidance

material may well be referred to by the regulator in identifying the precise steps which it would have thought appropriate in order to discharge that general duty. Quite apart from prosecution action, the CAA may wish to consider taking action against the aerodrome licence itself; in an extreme case, perhaps, proposing to revoke the licence where it considers that safety is being prejudiced as a result.

8 AIRPORT BYELAWS

Where special rules apply at an airport, such as airport byelaws, it is imperative that, where applicable, these rules form part of the airport's Safety Management System and that the specific rules are communicated to all users.

Where formal byelaws are not enacted, it is for an airport's management to decide on which rules and regulations need to be in place to satisfy the circumstances of their own airport and to ensure that these are promulgated. This may take the form of conditions of use of the airport.

9 AMENDMENTS TO CAP 642

The Working Group editing CAP 642 are aware that CAP 642 will require updating and amendment in due course. The guidance that CAP 642 offers as 'accepted good practice' is only valid until someone knows better. If readers and users have an idea, a view or a proposal for an improved practice, please let the Editor know. The Editor can be contacted through the Aerodrome Inspectorate of the CAA's Safety Regulation Group at Gatwick; the address and contact is below. Please let the Editor have your suggestions: this is an important safety document that the Working Group would wish to keep alive!

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CAA	*Civil Aviation Authority, UK*
BAA plc	*BAA plc*
BALPA	*British Airline Pilots Association*
AOA	*Airport Operators Association*
BATA	*British Air Transport Association*
HSE	*Health and Safety Executive*
AOC	*Airline Operators Committee*

2 ASMWG BRIEFINGS AND PRESENTATIONS

Note: In chronological order of 'Presentation'.

	Subject	*Representing*
Mr R C McKinley	Apron Concerns	Deputy Chief Inspector of Air Accidents, AAIB
Mr I J Witter/ Mr R Van-Geene	Briefing and Apron Visit Heathrow Airport	Heathrow Operations Staff
Mr P Glover/ Mr J Goddard	Apron Operations	Apron Managers, British Midland Airways
Mr D Buckle	Apron Operations	Acting Station Manager, Air Canada
Mr P Baker	Health & Safety Executive (HSE) concerns airside	HSE
Mr M Seller	Airside at Heathrow	Airfield Operations Manager, Heathrow Airport Limited
Mr J Lamb & Mr G A H Stagg	Aircraft Proximity Hazards (APHAZ) organisation	APHAZ Secretariat, CAA
PC M White	Apron Safety Concerns	Heathrow Airport Metropolitan Police
Mr S Ikin	Apron Operations (Gatwick)	Superintendent Ramp Services, Ogden Aviation
Mr G R Profit	A Practical Safety Management System	Safety Director, NATS
Mr D Epps	BA Safety Information System	Safety Manager, British Airways
Mr R W King	Air Transport Insurance	Executive Director, Willis Corroon Aerospace
Mr P Martin	Legal Background to Accidents	Consultant Solicitor, Frere Cholmeley Bischoff
Dr S R Kirton	HSE/CAA Interface	Airport National Interest Group (NIG), HSE
Mr J Maynard	Safety Training	Safety Manager, Heathrow Airport
Mr S Cobbold Mr C Clayton	Apron Operations	Transport Operations Manager, Alpha Flight Services
Mrs S Cresswell	Airside Training	Business Development Manager, Aviation Training Association

AAIB Aircraft Accident Investigation Board
APHAZ Aircraft Proximity Hazards

3 ADDITIONAL ASSISTANCE AND MATERIAL

Mr J Maynard	Safety Manager, Heathrow Airport Limited
Mr G Henderson	HM Principal Inspector, Airport NIG HSE
Mr D W Sames	Head of Aerodrome Policy, CAA

Bibliography

1 The following publications contain regulations, guidance or information concerned with airside safety. The list is by no means exhaustive, but it is given here as an easy reference for those who need to refer to a specific subject.

2 The full list of books, periodicals and leaflets published by the CAA together with some of those produced by the Joint Aviation Authorities (JAA) and ICAO (supplements) is provided in the CAA's 'Publications Catalogue' which itself is available from CAA Printing and Publication Services.

AIRPORTS AND HELIPORTS

CAP 74 Aircraft Fuelling: Fire Prevention and Safety Measures

CAP 168 Licensing of Aerodromes

NOTAL Notices to Aerodrome Licence Holders

CAP 384 Bird Control on Aerodromes

CAP 428 Safety Standards at Unlicensed Aerodromes

CAP 434 Aviation Fuel at Aerodromes

CAP 437 Offshore Helicopter Landing Areas – Guidance on Standards

CAP 576 Aerodrome Model Emergency Orders

CAP 605 Rescue and Fire Fighting

CAP 627 A Guide to Runway Capacity

CAP 642 Airside Safety Management

AIR TRAFFIC CONTROL AND NAVIGATION

CAP 32 United Kingdom Aeronautical Information Publication (UK AIP)

Aeronautical Information Circulars

AIP Charts Section

Pre-Flight Information Bulletins

CAP 393 Air Navigation – The Order and the Regulations

CAP 360 Air Operators Certificates

CAP 483 Safe Transport of Dangerous Goods by Air – Guidelines on Training

AVIATION SAFETY

CAP 382 Mandatory Occurrence Reporting Scheme

CAP 403 Flying Displays: A Guide to Safety and Administrative Arrangements

TAKE-OFF, LANDING AND NOISE

CAP 359 United Kingdom Operating Requirements for All Weather Operations Categories II, IIIA, IIIB

ICAO DOCUMENTS

Annex 2	Rules of the Air	
Annex 6	Operation of Aircraft.	Part 1 – International Commercial Air Transport – Aeroplanes Part 2 – International General Aviation Part 3 – International Operations – Helicopters
Annex 13	Aircraft Accident Investigation	
Annex 14	Aerodromes.	Volume 1 – Aerodrome Design and Operations Volume 2 – Heliports
Annex 18	The Safe Transport of Dangerous Goods by Air	
Document 9137	Airport Services Manual.	Part 1 – Rescue and Fire Fighting Part 2 – Pavement Surface Conditions Part 3 – Bird Control and Reduction Part 5 – Removal of Disabled Aircraft Part 6 – Control of Obstacles
Document 9157	Aerodrome Design Manual	Part 1 – Runways Part 2 – Taxiways, Aprons and Holding Bays Part 3 – Pavements Part 4 – Visual Aids Part 5 – Electrical Systems
Document 9184	Airport Planning Manual.	Part 1 – Master Planning

HSE DOCUMENTS

The Health and Safety at Work etc Act 1974

Successful Health and Safety Management HS(G)65 ISBN 0 7176 0425 X

Note: For documents giving advice and guidance on specific potential hazards, see Part 1.

Part 1 The Management of Health and Safety of People Airside

CONTENTS

1 INTRODUCTION TO PART 1

1.1 At commercial aerodromes the apron is a busy place of work. People face many potential hazards, particularly from the movement and operation of aircraft and ground vehicles. Failure to eliminate or control such hazards may lead to accidents or cases of ill health.

1.2 Great emphasis is placed, rightly, on flight safety by the aviation industry but it is important not to overlook the many hazards which may be faced on the ground by all staff. Part 1 is intended to help employers and managers within the aviation industry to address these hazards. The contents of this part will be relevant to aerodrome operators, airlines, ground handling agents and others working, or in control of operations, on the apron.

1.3 Some of the main hazards are outlined, the principal legislation enforced by, and guidance published by, the Health and Safety Executive (HSE) is described and some examples are given to assist employers in providing a safe and healthy place of work and in complying with the law. It should be remembered that the action taken should be commensurate with the degree of risk.

1.4 This Part does not specifically address workplaces at aerodromes away from the apron, such as cargo warehouses or maintenance areas for which the HSE is also the enforcing authority, although much of the legislation and guidance referred to below will also apply.

1.5 It is not possible in this Part to give definitive advice and guidance to meet every situation, but the following paragraphs give a broad outline of the requirements. Further information may be obtained from the local office of the HSE.

2 GENERAL LEGAL DUTIES RELATING TO HEALTH AND SAFETY AT WORK

2.1 The main duties in respect of health and safety of people at work (including airside) are stated in the Health and Safety at Work etc Act 1974. They may be summarised as follows:

EVERY EMPLOYER HAS A DUTY TO ENSURE, SO FAR AS IS REASONABLY PRACTICABLE, THE HEALTH AND SAFETY OF ANY INDIVIDUAL WHO MIGHT BE AFFECTED BY ANY WORK ACTIVITY WITHIN THE CONTROL OF THE EMPLOYER.

EVERY EMPLOYEE HAS A DUTY TO TAKE REASONABLE CARE FOR THE HEALTH AND SAFETY OF HIMSELF AND OTHER PERSONS WHO MIGHT BE AFFECTED BY HIS ACTS AND OMISSIONS AT WORK.

Very briefly these duties require employers to provide systems for managing health and safety, safe places of work, suitable work equipment and welfare facilities for their employees. This should help to ensure employees conduct their activities so as not to put themselves or other people at risk. Employees have duties to co-operate with employers in relation to health and safety and to comply with, for example, any training or information or systems of work provided by their employers.

It is a requirement of the Management of Health and Safety at Work Regulations 1992 that employers who share a workplace co-operate so far as is necessary to provide a safe and healthy place of work.

Duties under the Health and Safety at Work Act 1974 are qualified by the term 'so far as is reasonably practicable'. To carry out a duty 'so far as is reasonably practicable' means that the degree of risk in a particular activity or environment can be balanced against the time, trouble, cost and physical difficulty of taking measures to avoid the risk. If these are so disproportionate to the risk that it would be quite unreasonable for the persons concerned to have to incur them to prevent it, they are not obliged to do so. The greater the risk, the more likely it is that it is reasonable to go to very substantial expense, trouble and invention to reduce it. But if the consequences and the extent of a risk are small, insistence on great expense would not be considered reasonable. It is important to remember that the size or financial position of the employer are *not* taken into account.

2.2 **Employers are also required to:**

(a) Eliminate hazards where possible and to assess and reduce risks to their employees from any remaining hazards. It must be emphasised that assessing risks is the cornerstone of a good health and safety management system as well as being a legal requirement. Appendix A sets out further advice on this topic.

(b) Have arrangements for effective planning, organisation, control, monitoring and review of preventive and protective measures or, in other words, a system for managing health and safety– see Part 2 of this publication for further information.

(c) Comply with the requirements and prohibitions placed upon them by health and safety legislation.

NOTE: All of these are in addition to any duties imposed upon companies, managers or employees by legislation enforced by the CAA. Figure 1 illustrates just some of the broader divisions of responsibility between the CAA and the HSE. Figure 2 shows just one of those examples and illustrates how closely the CAA and HSE work together and where interests overlap.

2.3 It is important to understand the range of legislation that places duties on different employers at an aerodrome, in particular the Aerodrome Licensee.

2.4 As well as duties imposed on the Aerodrome Licensee by the CAA, the Licensee, in common with all other employers, has health and safety duties as an employer under Health and Safety at Work legislation. The Aerodrome Licensee is also a provider of a workplace and frequently a provider of work equipment, and therefore has duties to ensure, so far as is reasonably practicable, the health and safety of others who are at that place of work. This is particularly important for the common user areas and for issues that require coordination across the aerodrome. One example would be the segregation of pedestrians and vehicles, where possible, to minimise the risk of transport accidents. Another example would be the coordination and communication of emergency plans that can only be done by the Licensee and that affect most employers on the aerodrome.

2.5 The Aerodrome Licensee should make sure that risk assessments also cover persons who, whilst not in his direct employment, might be affected by the conduct of the licencees undertaking. This will help the Licensee to identify the measures needed to comply with the requirements and prohibitions arising from the relevant health and safety legislation.

2.6 However, the Licensee should not become directly involved in, for example, the health and safety management of employees of an airline in a hangar, when the

airline is the sole occupier of a hangar. The only exceptions to this is that the Licensee has responsibility for some issues, such as aerodrome-wide emergency planning, and may have some duties relating to the safety of the structure of the hangar. This may well depend on the tenancy agreement. It is emphasised that in this example, the health and safety of people in the hangar is the responsibility of the airline occupying the hangar.

2.7 It is incumbent upon employers, who provide and use premises, including equipment, to be clear as to their responsibilities and duties. *Where employers share a workplace, such as an aircraft stand, there is a requirement for them to co-operate with each other and to co-ordinate their actions to ensure that they comply with health and safety legislation.*

3 POTENTIAL HAZARDS ON THE APRON

3.1 This section discusses some of the potential hazards commonly encountered on aprons. Employers should assess the risks (see appendix A) from all of these – and any other hazards which may arise from their work activities, taking into account relevant specific legislation. Note: Appendix B lists some relevant published guidance.

3.2 It is important that all aircraft operations, including turn round times should take full account of the need for safe working practices. Failure to do this may result in short cuts leading to accidents.

3.3 Common hazards at airports which are discussed in the following paragraphs, include:

- ❑ Vehicles striking people.
- ❑ Inappropriate manual handling.
- ❑ Falls from operating/working at height.
- ❑ Moving aircraft and live aircraft engines.
- ❑ Noise.
- ❑ Machinery.
- ❑ Hazardous substances.
- ❑ Inadequate lighting.
- ❑ Hazards to passengers on the apron.

3.3.1 *VEHICLES STRIKING PEOPLE*

3.3.1.1 Airside vehicles constitute an ever present hazard and extreme vigilance is necessary from all those working airside. The best solution is to eliminate the risk by keeping vehicles and pedestrians apart where possible, e.g. by the use of air bridges. When this is not reasonably practicable another method of dealing with the problem is the provision of separate designated routes; when in close proximity to aircraft this will require careful consideration.

3.3.1.2 What can be done in the vicinity of aircraft to reduce injury to people from vehicles? Some aerodromes have service delivery systems built into the stands thus reducing the number of vehicles that attend an aircraft. However, such systems are rare and in most cases other methods will need to be considered to segregate vehicles and passengers. Where, for example air bridges are used, segregation is guaranteed.

3.3.1.3 If segregation is not possible, particularly in the vicinity of aircraft, a safe system of work should be developed. This provides an opportunity for partnership in planning involving all those with a direct interest in safety on the apron. Such a system could encompass the following:

- Good vehicle maintenance, especially safety critical components.
- Good driver training.
- Good driving standards.
- Competence/attitude of drivers.
- Apron management.
- Provision of assistance and/or audible warning devices for reversing vehicles (although such audible warning devices might not be fully effective in the vicinity of high ambient noise, or if people are wearing hearing protection).
- Procurement of suitable vehicles, e.g. good driver vision.
- Regular monitoring of standards.
- Safe parking of vehicles.
- Encouragement of good practice.
- The provision and wearing of high visibility clothing.

3.3.1.4 Where more than one company is attending an aircraft, effective co-ordination and co-operation of contractors is essential to prevent vehicles striking people.

3.3.2 *INAPPROPRIATE MANUAL HANDLING*

3.3.2.1 Manual handling is a term that applies to activities such as lifting, lowering, pushing, pulling or supporting a load. Many of these activities will be commonplace and will include for example ground-crew operations such as the loading or unloading of an aircraft and lifting tow-bars onto and from aircraft and towing vehicles. The provision of assistance for disabled passengers will require particular thought.

3.3.2.2 The best means of avoiding risk, is to eliminate the hazard altogether, for example by mechanised handling techniques. Where it is not reasonably practicable to eliminate the hazard and ground staff are required to undertake manual handling, the following guidance may be adapted to those tasks:

- Make a suitable and sufficient assessment of each task. This should address the load, the working environment and the capabilities of the individuals concerned.
- Acting on the results of the assessment, take appropriate steps to reduce the risk of injuries from manual handling.
- Information should be provided on the weight and centre of gravity of the loads that are to be lifted where it is reasonably practicable to do so.

3.3.2.3 Baggage handling gives rise to more manual handling problems than any other activity at aerodromes. The following may help reduce injury from baggage handling:

- Examine the whole task and consider whether a change of process or equipment could eliminate any stages of manual handling.
- Use conveyors (or similar) that are of an ergonomically assessed height to minimise the risk of injury from lifting or lowering items to or from such equipment. 650mm above the floor is commonly found to be an acceptable height but this might vary depending on local circumstances.
- Ensure that where a person has to turn around while lifting and placing a bag there is sufficient space to do so and the floor is even.
- Ensure that there are no gaps between equipment that results in people having to throw baggage.
- Ensure that automated systems are properly maintained to minimise consequential poor manual handling techniques.
- Ensure that training is relevant to the tasks that people are undertaking.
- Provide general indication of the weight of each bag. This could be achieved by the attachment of a 'heavy bag' label at check-in with instructions and training given to employees on how to deal with such baggage.

3.3.2.4 The primary objective must be to reduce the requirements for manual handling. It is good practice to review each stage of the baggage handling process with the aim of eliminating any unnecessary stages. For example, it might be possible to eliminate some stages by using a baggage transfer vehicle that can adjust to the correct height of the aircraft hold door. This eliminates manual handling from the transfer vehicle to a belt loader.

3.3.3 *FALLS FROM OPERATING/WORKING AT HEIGHT*

3.3.3.1 Access to external elevated levels on and around aircraft will be required when aircraft are on the stand. The main legal requirement that relates to the prevention of people falling, is Regulation 13 of the Workplace (Health, Safety and Welfare) Regulations 1992. This broadly states, that, so far as is reasonably practicable, suitable and effective measures shall be taken to prevent any person falling a distance likely to cause personal injury. However, preference should be given to providing a safe place of work rather than relying on personal protective equipment, information, instruction, training or supervision for preventing falls. But, even where reasonably practicable measures have been taken to provide a safe place of work, personal protective equipment may still be necessary e.g. a safety harness and lanyard.

3.3.3.2 By its very nature all access equipment has to be used in close proximity to the aircraft. Drivers may need to seek assistance to ensure the correct positioning of the access equipment so that there are no gaps large enough for a person to fall through. Drivers should also make allowance for the change in height of an aircraft during loading/unloading as this might cause the aircraft to touch the access equipment resulting in damage to the aircraft. If any damage to the aircraft is suspected, this must be reported immediately to a responsible person.

3.3.3.3 There is no specified working height at which specialist access equipment must be used but suitable physical means should be provided in all instances where anyone might fall more than 2 metres. Where falls of less than 2m may occur, each situation

should be individually assessed for the likelihood of injury and appropriate preventive measures taken.

3.3.3.4 External access to aircraft broadly fits into two categories:

(a) *Access to Aircraft Doorways*

Safe access to aircraft entry/service doorways is particularly important as the height of fall from the doorway of an aircraft may, in extreme cases result in a fatal injury.

The types of vehicles commonly used to service aircraft rarely have protection along the leading edge of the access equipment that is adjacent to the aircraft when in use. In some circumstances the access equipment can be brought close to the aircraft before a person has to approach the leading edge. Examples are when the aircraft doors open inwards (Figure 3) upwards or are powered open and closed, or otherwise avoid the need for persons approaching the edge of the access equipment or the aircraft doorway.

Where the aircraft has outwards opening doors which may foul the access equipment during opening and closing, employers should establish whether the safest option is to open the door from inside the aircraft. If this is not the case, employers should ensure that working at the unprotected edge is for the shortest time that is practicable. The floor on which the employee is standing should not have any defects that are likely to cause them to slip, trip or fall. Secure handholds should also be provided. Where an extra wide platform can be positioned against the aircraft the increased width can provide additional protection against falls (Figure 4). Whatever platform is used the moveable side edge protection should be adjusted to be close to the aircraft as soon as is practicable and certainly before the doorway is used. The last task before the access equipment is withdrawn from the aircraft should be to retract the moveable side edge protection. It is equally important that any controls that move the platform should be located so that the control operator has a clear view of the platform. However, the main point is that employers should ask themselves 'Have I taken suitable and effective measures to prevent any person falling a distance likely to cause personal injury?' Employers should refer to the requirements of the Workplace (Health, Safety and Welfare) Regulations 1992 and the Approved Code of Practice (referenced in Appendix B).

(b) *Access to other parts of the Aircraft Surface*

Access to parts of the aircraft other than the doorway may be gained by a suitable scissor lift or mobile elevating work platform although other measures may be used if they are suitable and effective. The edge protection around the working platforms should be maintained so as to prevent persons falling.

Over-wing access presents a risk of falling. Lightweight inertia devices incorporating a lanyard and harness have been found to be effective for such access. Some aircraft manufacturers already provide attachment points for harnesses on wings of their aircraft.

3.3.3.5 Other Falls Associated with Aircraft

Although the fall height is often limited, a significant number of accidents occur as the result of falls through uncovered access points in the floors of aircraft when covers have been temporarily lifted. Accordingly uncovered access points should be provided with a temporary barrier.

3.3.4 *MOVING AIRCRAFT AND LIVE AIRCRAFT ENGINES*

3.3.4.1 The movement of aircraft on the ground, either under their own power or towed, creates a number of hazards that are unique to the aviation industry. In particular operating jet or propeller engines can cause fatal or serious injuries.

3.3.4.2 These topics, are addressed more fully in Part 5.

3.3.5 *NOISE*

3.3.5.1 Excessive noise exposure can result in both short term and permanent hearing loss. The relevant regulations are the Noise at Work Regulations 1989. In summary they require employers to:

- Ensure that a competent person assesses employee noise exposure when 'daily personal noise exposure – L_{EPd}' reaches 85dB(A), first action level. As a guide, such an exposure will make hearing a conversation at approximately 2m difficult.
- Review the assessment when it is thought that it is no longer valid or there has been a significant change in the work.
- Reduce the risk of damage to the hearing of employees, and other people at work on the apron, from high noise exposure to the lowest level reasonably practicable through engineering control measures.
- Provide employees with the necessary information, instruction and training on how to minimise the risk to hearing.

3.3.5.2 The primary source of noise on aerodrome aprons are aircraft engines, auxiliary power units (APUs) and support equipment such as mobile ground power units. Many of these sources are highly mobile and exhibit variability in their noise emissions. Therefore, the level of ambient/background noise and, potentially, levels of personal noise exposure, can fluctuate very significantly and can greatly exceed the action levels.

3.3.5.3 Employers should try to reduce the noise exposure of both their employees, and others at work on the apron exposed to the noise created by their activities, without relying on hearing protection. Some suggestions are:

- Where fixed electrical ground power units (with power generation sited away from employees on the apron) and fixed air conditioning units are provided on the stands, aircraft operators should make full use of these facilities to minimise the need for APUs which generate high levels of noise.
- Where existing noisy ground support plant is used it could be engineered to minimise noise output. In some instances this may require retrospective remedial action, e.g. partial enclosure, to reduce noise emission.
- Before the procurement of new plant, noise emission data, provided by the supplier, should be taken into account in deciding whether to purchase, and whether further protective measures may be needed.
- The amount of time that workers spend in the vicinity of noisy plant and equipment should, if possible, be minimised by organising and planning work accordingly.

- Work associated with rear holds or rear toilet facilities could be undertaken when the APU is not running.
- For vehicle operators an acoustic cab could be fitted, provided that the vehicle can be operated with the doors and windows maintained closed. If this is not reasonably practicable it may be feasible for drivers to use hearing protection.

3.3.5.4 If, after the use of reasonably practicable control measures, employees' daily personal noise exposure ($L_{EP,d}$) exceeds the 90dB(A), the second action level, the employer should provide employees with suitable and efficient hearing protection, which reduces the dose below the second action level. Between 85dB(A) and 90dB(A), the first and second action levels, employees should be provided with suitable and efficient hearing protection upon request. If hearing protectors are required, employers need to provide proper instruction and training to their own employees in its use. Employers also need to ensure that hearing protectors are worn and maintained correctly.

3.3.5.5 On the apron one employer's activities may cause the employees of other employers to be exposed to noise; for example, high levels of noise from an APU will affect baggage handlers and others working in the vicinity of the aircraft. The various employers involved will usually need to agree who is to co-ordinate their action to comply with the Regulations. Normally, this will be the person in overall control of the work. It will often be appropriate for the employer in overall control to make sure that the noise exposure that his work activity generates is assessed and reduced, and that the information on noise is made available to all affected employers; the actual employer of each worker provides any training and personal protective equipment needed. In most cases exchange of information and collaboration between employers will be needed to ensure that duties are fulfilled without unnecessary duplication.

3.3.5.6 By virtue of the Management of Health and Safety at Work Regulations 1992 (Regulation 5), employers should carry out health surveillance (hearing checks) for people working in noisy areas where the risk assessment shows there is a risk of employees having their hearing impaired. There is no specific point at which employers should start audiometric testing but it is considered good practice for employers to carry out regular hearing checks on all employees whose daily personal noise exposure equals or exceeds 90dB(A). Employers should normally provide hearing checks when personal noise exposure reach or exceeds 95dB(A), other than where exposure is likely to be temporary, e.g. for only a few weeks per year. Employers need only provide hearing checks for their own employees, and not for others who may be affected by the noise their work activity generates.

NOTE: $L_{EP,d}$ is defined as the total exposure to noise throughout the day, taking into account the average noise levels in working areas and the time spent in them, but taking no account of any ear protectors worn.

3.3.6 *MACHINERY*

3.3.6.1 The Provision and Use of Work Equipment Regulations 1992, apply to belt conveyors, cargo loaders, catering trucks, baggage tugs, and indeed most equipment found on aprons.

3.3.6.2 The main provisions of these regulations are that:

- Equipment is suitable (Reg 5) (with regard to initial integrity, the place where it will be used and the purpose for which it will be used).
- Equipment is maintained in an efficient state (Reg 6).
- Users are provided with information and training (Regs 8 & 9).
- There are proper controls, including emergency stops where necessary (Regs 14, 15, 16, 17, and 18).
- Equipment is effectively safeguarded (Reg 11 – see para 3.3.6.3 below).

3.3.6.3 It is necessary to ensure that effective measures are taken to prevent contact with dangerous parts of machinery.

The measures to be taken are set out in *order of priority* as follows:

(a) Fixed enclosing guards, or if not practicable:

(b) Other guards or protection devices (e.g. interlocked guards), or if not:

(c) Other 'protection appliances', (although it is thought that on most ground support equipment, fixed guards or protection devices will be feasible) or if not:

(d) The provision of information, instruction, training and supervision.

3.3.6.4 For work equipment that was in use before 1 January 1993, some requirements of the Provision and Use of Work Equipment Regulations 1992 do not come into force until 1 January 1997. However, it should be noted that other machinery safeguarding legislation applies.

3.3.6.5 Special Note on Duties of machinery Suppliers and CE1 Marking

Regulation 10 of The Provision and Use of Work Equipment Regulations 1992 expects employers to obtain work equipment made in accordance to the requirements of The Supply of Machinery (Safety) Regulations 1992 as amended. These Regulations state that from 1 January 1995 machinery as defined, which includes most ground support equipment, when supplied in the UK should satisfy specified essential health and safety requirements and carry a CE marking.

Note [1]: CE stands for 'Communaute Europeenne' but the marking on machinery will simply state CE.

One way of demonstrating compliance with the essential safety requirements applicable to a product is to design and manufacture the product to harmonised standards. At the time of writing there are no such standards specific to aircraft ground support equipment although they are in preparation. They will have the number BS EN 1915 and will have suffix numbers for different topics such as: basic safety requirements, stability and strength requirements and for specific types of aircraft ground support equipment.

For certain specified types of machine, the responsible person who will be the manufacturer or his representative must arrange for type examination of such equipment by an approved body, unless the machinery is made in accordance with harmonised standards. Lifting devices that involve a risk of a person falling more than 3m are included in this category but type examination will not be mandatory until 1 January 1997.

British Standards Institute (BSI Standards) are the lead body in this country for the developments of standards in the BS EN 1915 series.

3.3.7 *HAZARDOUS SUBSTANCES*

3.3.7.1 Hazardous substances are either:

- Those used in a work activity (such as hydraulic oil or cleaning products); or
- Those that arise from a work activity (such as engine exhaust fumes) and which are toxic, corrosive, irritant or otherwise harmful to health. The term also applies to biological agents, which could be encountered at airports in toilet waste. The Control of Substances Hazardous to Health Regulations 1994 is the main legislation that applies.

3.3.7.2 In summary, these regulations, like most recent HSE enforced legislation, require employers to assess the risks arising from the work. This assessment should consider the risks created by the use, handling, or release of the substance. First and foremost, the assessment should show whether exposure to the hazardous substance can be eliminated – for example could a less hazardous substance be used instead?

3.3.7.3 If exposure cannot be prevented then it should be adequately controlled. This could be achieved for example by ensuring chemicals cannot splash onto people or that fumes cannot accumulate near to people. The use of personal protective equipment should only be used as a last resort, although for some tasks, personal protective equipment may be a useful back-up for employees undertaking such tasks as emptying and cleaning toilets, who might use protective gloves, and overalls. Eye/face protection might also be useful in some circumstances.

3.3.7.4 Employers should note that commercially supplied hazardous substances should have certain health and safety information on the container and that suppliers of substances have to make available other relevant information on a safety data sheet. This information may be used as a basis for the assessment. For other hazardous substances such as engine fumes and toilet waste, employers may need to seek specialist advice and, if necessary, arrange for atmospheric sampling or other testing to be carried out.

3.3.7.5 Naturally, any control measures selected must be effective and in some instances it may be necessary to monitor the exposure of people to hazardous substances to ensure that they are not exposed to harmful levels.

3.3.8 *INADEQUATE LIGHTING*

3.3.8.1 The standard of lighting which should be provided on aprons is given in CAP 168 'Licensing of Aerodromes'. The level of illumination is modest and is intended to give pilots sufficient background illumination to manoeuvre and park their aircraft safely at night. Bright continuous lights and bright flashing lights can cause glare to pilots, vehicle drivers, and wing men, adversely affecting their night vision, and should be avoided wherever possible.

3.3.8.2 Conversely, it is equally important that every workplace has suitable and sufficient lighting. This may have to be local lighting at specific areas where people are at work, so that they may undertake their work safely. Regulation 8 of The Workplace (Health Safety and Welfare) Regulations 1992 states the legal requirements.

3.3.9 *HAZARDS TO PASSENGERS ON THE APRON*

3.3.9.1 At aerodromes passengers may have to walk across the apron between the terminal building and the aircraft. This is liable to expose passengers to hazards such as vehicles moving across the apron. It is, therefore, important that the safety of passengers on the apron is suitably managed. The aerodrome licensee, the airline operator and ground handlers all have responsibility for ensuring passenger safety.

3.3.9.2 The licensee has a responsibility to provide an airport that is safe for its users. In designing the airport layout and facilities the licensee is able to make a significant contribution to the safety of passengers. For example, when the licensee provides airbridges, passengers are not exposed to any of the hazards on the apron. Where the provision of airbridges is not reasonably practicable, the licensee should ensure that the layout and marking of airside areas enables the safe movement of passengers through and from the terminal areas.

3.3.9.3 Where additional resources are required by airlines and ground handlers because the licensee has not provided airbridges or pier served stands, this may be offset through the licensee's fees and charges mechanism. For instance, through differential charging for different stands i.e. airbridge served, pier served, remote etc.

3.3.9.4 Overall responsibility for ensuring that passengers are safeguarded between the aircraft and the terminal building rests with airline carrying them. If the airline has given a ground handling agent the task of leading passengers into the terminal building, the ground handler will share some of the airline's responsibilities. The extent of this responsibility will vary, depending on the arrangements the airline has made. However, airlines are responsible for appointing competent contractors. ('Competency' includes having sufficient resources, including adequate numbers of staff, to deal with reasonably foreseeable eventualities.)

3.3.9.5 Airlines should ensure that ground handlers are competent to manage passengers' safety *before* a contract is awarded, and monitor the ground handler's performance *during* the contract. None of the responsibility that airlines have for the activities of their contractors removes the duty of ground handlers to ensure the health and safety of passengers in their care.

3.3.9.6 What steps can be taken to ensure passenger safety on the apron? These will vary from airport to airport and from stand to stand, but include:

- Informing passengers, e.g. by public announcement before they leave the aircraft/terminal, of the safe route they should follow into the terminal/aircraft.
- Leading passengers from the aircraft/terminal.
- Positioning staff on the apron to ensure that passengers follow a safe path to the terminal/aircraft.
- Having safe routes marked on the apron e.g. painted paths.
- Providing moveable barriers and chains ('Tensator' type devices) to create a temporary safe route across the apron for passengers to follow.

- Bussing passengers to and from the aircraft.
- Ensuring that permanent traffic routes, e.g. airport roads or taxiways, do not dissect the path between the terminal and the aircraft.

Relying solely on informing passengers of safe routes and marking them out are unlikely to be adequate for commercial passenger operations.

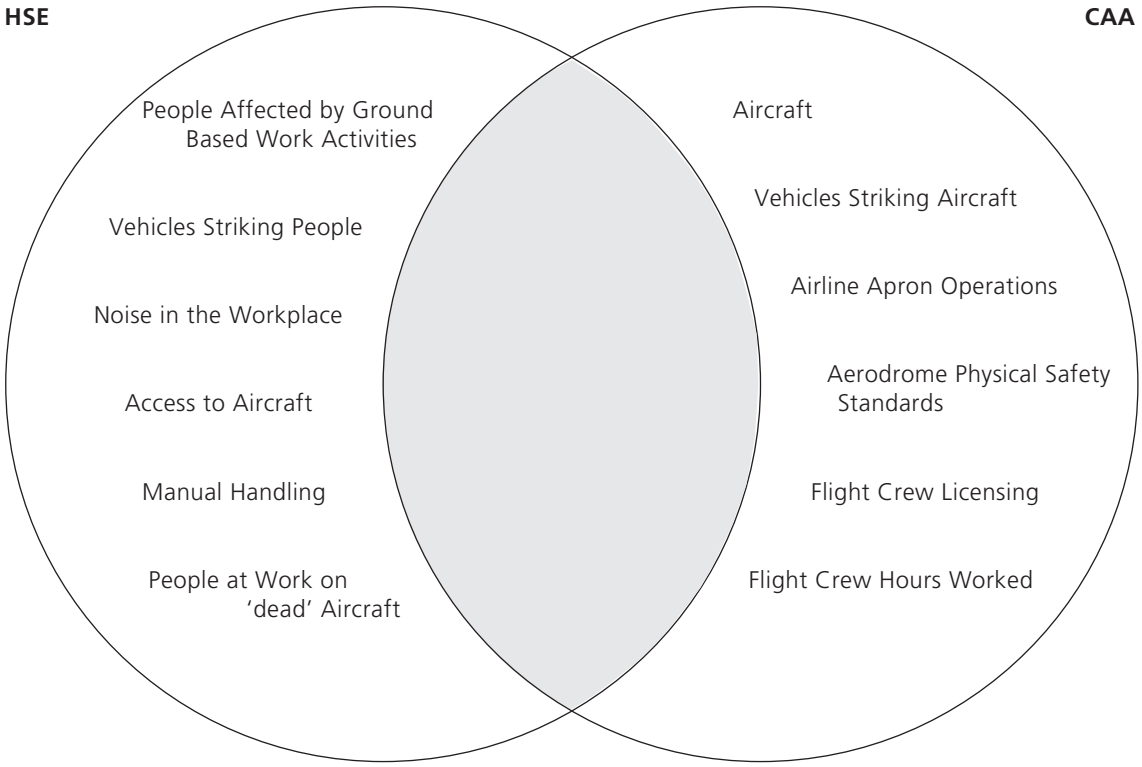

Figure 1 Some broad areas of responsibility between the HSE/CAA

NOTE: This is illustrative and not an exhaustive list.

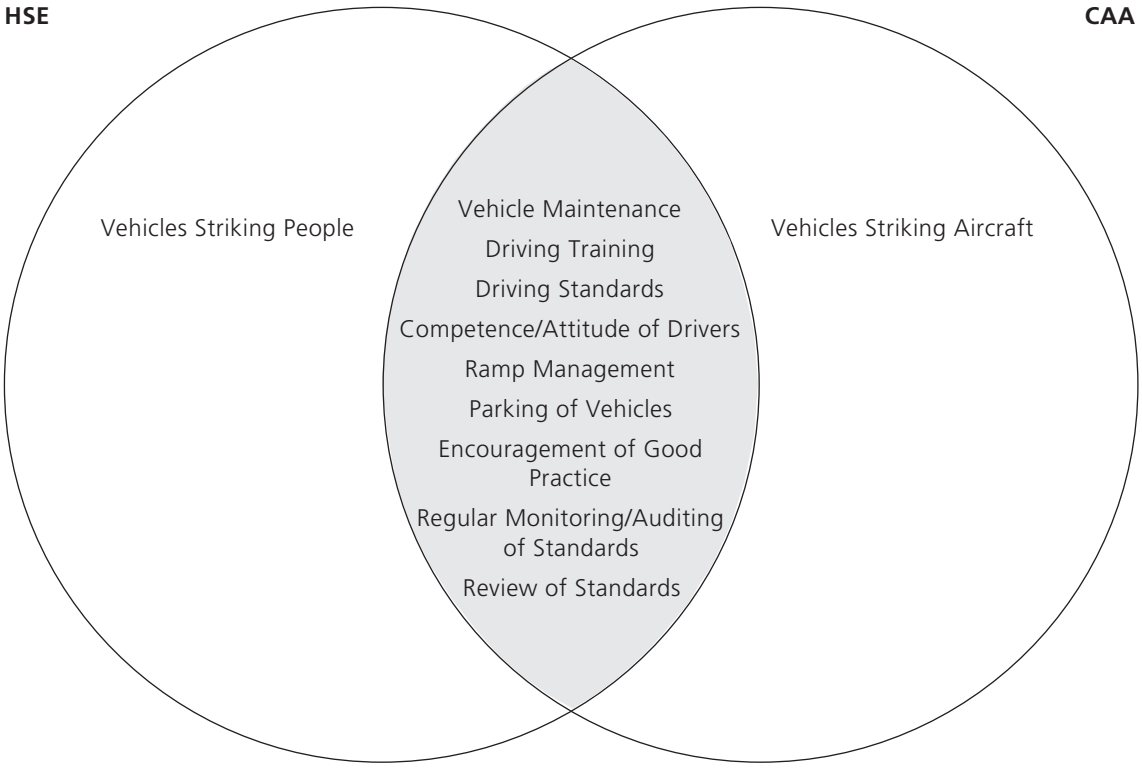

Figure 2 Single topic illustrating overlap of HSE/CAA interest

NOTE: The single topic of 'vehicle accidents' illustrates some of the common responsibilities and overlap of interests of the HSE/CAA.

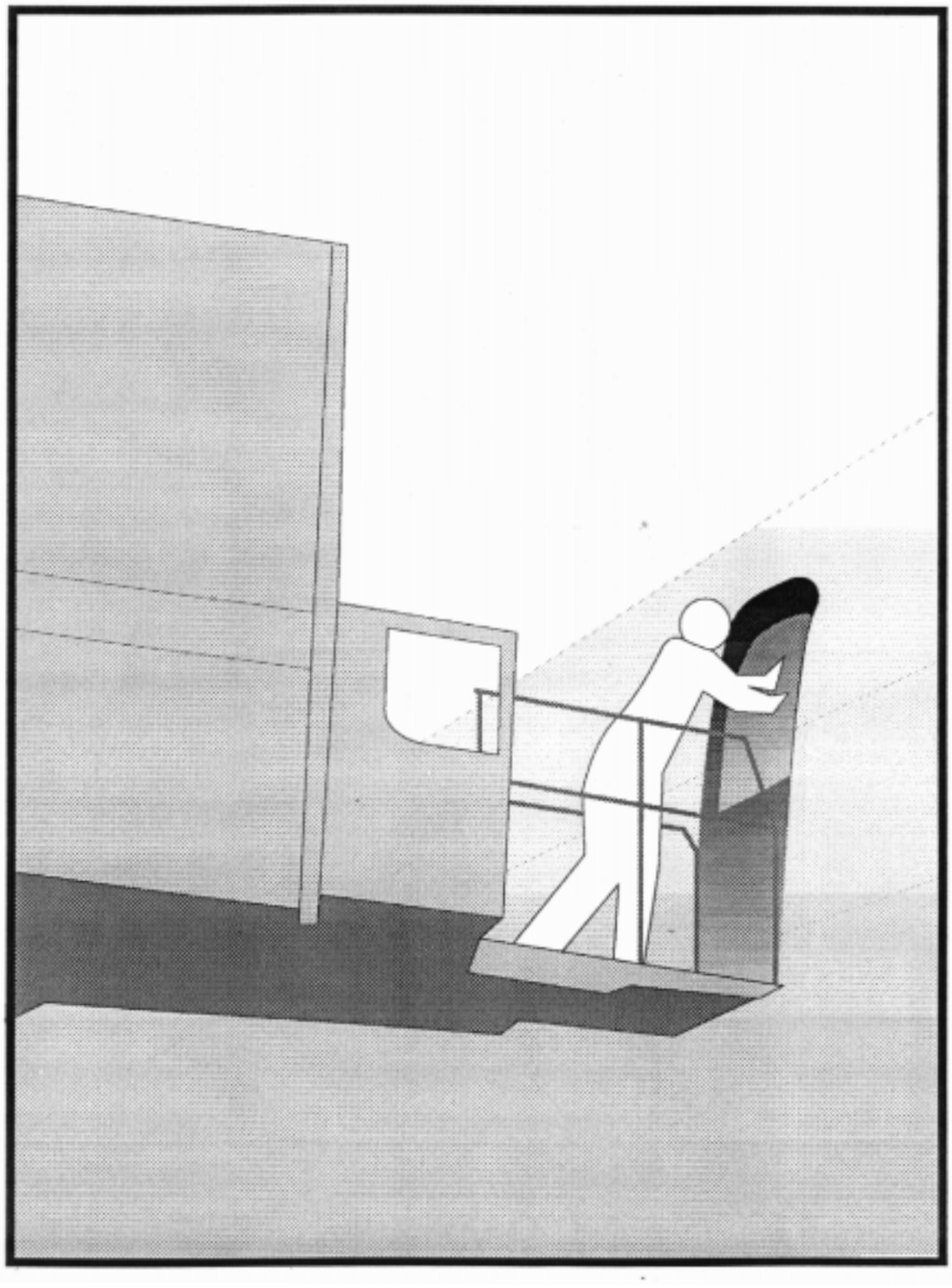

Figure 3 Inward Opening Aircraft Door

Notice how the inward opening door permits the access equipment to be close to the aircraft thus eliminating the hazard of falling through the gap between the aircraft and the access equipment.

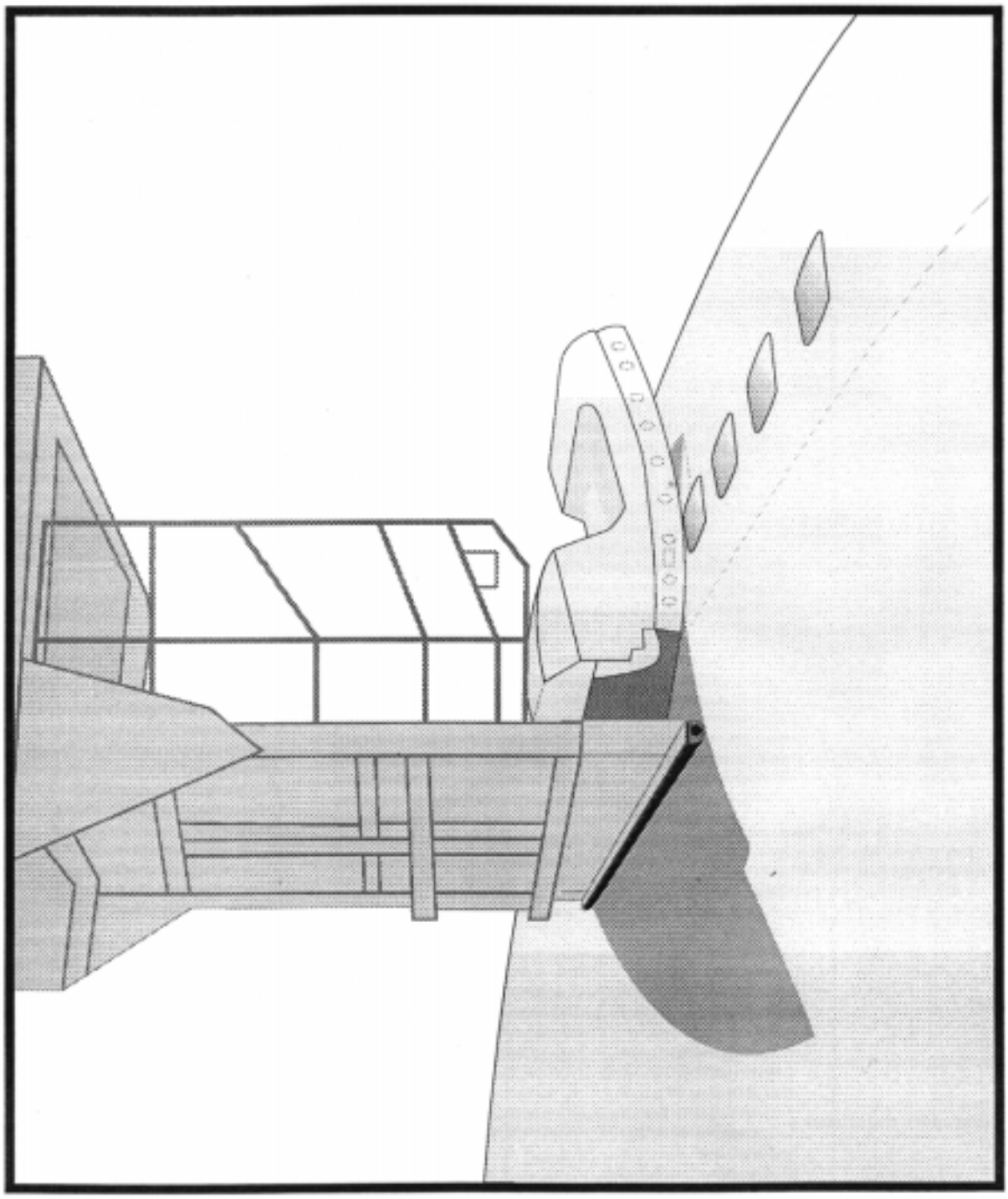

Figure 4 Wide Access Platform

This access platform is as wide as the vehicle and is located beneath the door and doorway. This method eliminates the potential hazard of a large gap between the aircraft and the access equipment because the leading edge is close to, and profiled to the shape of the aircraft (but does not touch it when in use). The moveable side edge protection should be moved to be close to the aircraft as soon as the door is in its open position. The edge protection should be retracted at the last instance before the door is closed.

Appendix A – Risk Assessment

The general legal requirement for a risk assessment is set out in Regulation 3 of the Management of Health and Safety at Work Regulations 1992. This broadly states that 'every employer shall make a suitable and sufficient assessment of the risks to the health and safety of his employees, and others who might be affected by his work activities, to which they are exposed whilst at work, for the purpose of identifying the measures he needs to take to comply with the requirements and prohibitions imposed upon him by or under the relevant statutory provisions'.

What is a suitable and sufficient risk assessment? An assessment of risk is nothing more that a careful examination of what, in the work, could harm people. The aim is to weigh up whether you have taken enough precautions, or whether you should do more to prevent harm. Certainly there is no such thing as a standard assessment. A risk assessment is not an end in itself, but is a practical management tool aimed at securing the effective control of risks and should be used as the basis for effective risk management.

The following may assist employers in completing a risk assessment:

1 IDENTIFY THE HAZARDS

There are many hazards on the apron. It is necessary to include hazards that might cause chronic ill health as well as those that cause immediate injury. The following list gives examples of some of the issues which a risk assessment might cover:

(a) Exposure to noise from aircraft engines, auxiliary power units and other sources.

(b) Working in close proximity to operating aircraft engines.

(c) People being struck by vehicles.

2 DECIDE WHO MIGHT BE HARMED

Identify those groups of people or individuals who are at particular risk. These would include the employer's own employees as well as others, such as contract cleaners, contract baggage handlers and contract security staff working on or near the employer's aircraft. Think about those who may be particularly at risk. Passengers are unlikely to be familiar with apron activities and therefore will need special consideration.

3 EVALUATE THE RISKS

For each hazard it is necessary to consider whether the risk has been adequately controlled by asking questions such as:

(a) Has relevant specific legislation been complied with? For example, considering the examples given above, there is specific legislation relating to noise (the Noise at Work Regulations 1989) whilst Regulation 17 of the Workplace (Health Safety and Welfare) Regulations 1992 relates to organisation etc of traffic routes.

(b) Where there is no specific legislation are the generally accepted industry standards followed?

(c) If so, are there any additional control measures that should be put in place? (This is because the law requires employers to ensure the health and safety of people so far as is reasonably practicable).

If there are no specific legal requirements (other than the general duties of the Health and Safety at Work etc Act 1974) employers should consider the following in relation to risk assessments:

(a) If possible avoid the risk altogether.

(b) Combat risks at source.

(c) Wherever possible, adapt work to the individual.

(d) Take advantage of technological and technical progress.

(e) Risk prevention measures need to form part of a coherent policy and approach.

(f) Give priority to those measures which protect the whole workplace.

(g) Employees need to understand their role.

(h) The employer needs to develop and maintain the existence of an active health and safety culture affecting the organisation as a whole.

Control measures taken should be commensurate with the risk.

4 RECORD YOUR FINDINGS

Employers should record significant findings of their risk assessment if they employ five people or more.

5 REVIEW YOUR ASSESSMENT FROM TIME TO TIME AND REVISE IT IF NECESSARY

Assessments should be revised to take account of significant changes in the work, and should in any case be reviewed periodically.

GENERAL ISSUES RELATING TO RISK ASSESSMENT

- *It is important that any completed risk assessment, the precautions to be taken and methods for the continued monitoring of the risk are communicated to the workforce.*
- Not only should the 'normal' situation be considered, but also foreseeable, atypical or infrequent operations such as maintenance of aircraft in elevated positions, and the effect that ambient conditions (darkness, twilight, rain etc) may have on risks. In deciding what precautions may be necessary, the capabilities, experience and training of employees should also be taken into account.
- Where employees of different employers (or self-employed people) work in the same workplace (e.g. an airline company and ground handling companies attending one aircraft) their respective employers would have to consider risks not only to their own employees but also to the other persons employed. The various employers could co-operate to produce an overall risk assessment.

- However, employers who control a number of similar workplaces where similar activities are undertaken may produce a generic 'model' risk assessment reflecting the common hazards and risks associated with these activities. They should, however, take care to ensure that while based on a 'model', each risk assessment is tailored to the specific circumstances of each workplace.

The approach to risk assessment should be flexible and adaptable to all situations, for example, from a busy aerodrome handling numerous wide bodied jets, through to a regional aerodrome with only a few flights per day down to an aerodrome that handles only light aircraft, and should specifically address the needs of each particular case. If new technology is introduced in the future, there will be a need to consider whether it introduces any significant hazards which would impact on the risk assessment, and amend it accordingly.

Appendix B – Further Advice

Most of the documents referred to in this appendix are published by the Health and Safety Executive (unless otherwise specified) and are obtainable from HSE Books, P O Box 1999, Sudbury, Suffolk, CO10 6FS. (Telephone 01787-881165 – Fax 01787-313995). Other bookshops may be able to supply them.

Relevant guidance is listed under each sub heading topic referred to in the text.

NOTE: The document 'Management of Health and Safety at Work – Management of Health and Safety at Work Regulations 1992 – Approved Code of Practice', L21 ISBN 0 7176 0412 is relevant to all workplace activities, (see final paragraph of this Appendix).

VEHICLES STRIKING PEOPLE (para 3.3.1)

Workplace, Health, Safety and Welfare – Workplace (Health, Safety and Welfare) Regulations 1992 – Approved Code of Practice and Guidance L24
ISBN 0 7176 0413 6 (Regs 12 and 17)

Workplace Transport Safety – Guidance for Employers HS(G) 136
ISBN 0 7176 0935 9

Personal Protective Equipment (PPE): High Visibility Clothing for Airport Workers. Air Transport Sheet No. 1 (available from any HSE office).

INAPPROPRIATE MANUAL HANDLING (para 3.3.2)

Manual Handling – Manual Handling Operations 1992 – Guidance on Regulations L23
ISBN 0 7176 0411 X (all regulations relevant)

A Pain in Your Workplace – Ergonomic Problems and Solutions HS(G) 121
ISBN 0 7176 0668 6

FALLS FROM OPERATING/WORKING AT HEIGHT (para 3.3.3)

Workplace Health, Safety and Welfare – Workplace (Health Safety and Welfare) Regulations 1992 – Approved Code of Practice and Guidance L24
ISBN 0 7176 0413 6 (Reg 13)

Work Equipment – Provision and Use of Work Equipment Regulations 1992 – Guidance on Regulations L22
ISBN 0 7176 0414 4 (relevant to items such as mobile elevating work platforms)

MOVING AIRCRAFT AND LIVE AIRCRAFT ENGINES (para 3.3.4)

No specific documents published by HSE.

Part 5 of CAP 642.

NOISE (para 3.3.5)

Noise at Work, Noise Guide No. 1–2: Legal Duties of employers designers, manufacturers importers and suppliers to prevent damage to hearing (includes – The Noise at Work Regulations 1989) – Guidance on regulations
ISBN 0 7176 0454 3 (Regs 4, 5, 6, 7, 8 are particularly relevant).

Noise at Work, Noise Guide No. 3–8: Noise assessment, information and control.
ISBN 0 11 885430 5

MACHINERY (para 3.3.6)

Work Equipment – Provision and Use of Work Equipment Regulations 1992 – Guidance on Regulations L22
ISBN 0 7176 0414 4 (all regulations relevant)

HAZARDOUS SUBSTANCES (para 3.3.7)

Control of Substances Hazardous to Health: Control of Carcinogenic Substances: Control of Biological Agents – Control of Substances Hazardous to Health Regulations 1994 – Approved Codes of Practice L5
ISBN 0 7176 0819 0 (all regulations relevant)

Seven Steps to Successful Substitution of Hazardous Substances HS(G) 110.
ISBN 0 7176 0695 3

INADEQUATE LIGHTING (para 3.3.8)

Workplace Health, Safety and Welfare – Workplace (Health, Safety and Welfare) Regulations 1992 – Approved Code of Practice and Guidance L24
ISBN 0 7176 0413 6 (Reg 8).

RISK ASSESSMENT

Management of Health and Safety at Work – Management of Health and Safety of Work Regulations 1992 – Approval Code of Practice L21
ISBN 0 7176 0412 (Reg 3).

5 Steps to Risk Assessment IND(G)163L – free leaflet available from any HSE office

Part 2 Airside Safety Management System

CONTENTS

1 INTRODUCTION TO PART 2

1.1 This publication sponsored by the Civil Aviation Authority, describes the steps to a successful Airside Safety Management System. It is intended to be a source of reference and guidance for everyone in organisations involved or engaged in related activities.

1.2 Good airside safety management involves the application of the principles associated both with the HSE Successful Health and Safety Management and with quality management. It is something to which all organisations should aspire. The safety of employees, wherever they may work, is embodied in the requirements of the Health and Safety at Work etc. Act 1974.

- Directors and Managers can be held responsible for failing to ensure reasonable safety standards.
- The costs of failing to manage airside safety successfully are high.
- Such costs, whether counted in human or financial terms are preventable if safety is fully managed.
- Can you afford failures? Do you *really* manage airside safety?

1.3 This publication will help you answer these questions. It describes five stages in developing a successful Airside Safety Management System. The briefing questionnaire on page 2–8 can be used before you start. It will give you guidance on your current level of compliance.

1.4 The five stage programme will help you keep your staff at work, reduce the pain of injuries and illness and it will SAVE LIVES.

1.5 Following the programme will help you control the costs of property and equipment damage. You will have fewer delays, higher productivity and better quality. By complying with the law and avoiding fines you will avoid damaging publicity. Your Airside Safety programme will be an integral part of a wider Airport Operators Safety Management System.

1.6 The path described is not easy. There are no short cuts. It cannot and should not be sidelined. It must not be delegated out of sight. The clearest lesson is that the starting point is the real and genuine thoughtful commitment of top management.

1.7 The Regulatory Authorities firmly believe that such a commitment is both beneficial and worthwhile.

STAGE 1 – SET YOUR POLICY

The same sorts of mistakes that cause injuries and illnesses can also lead to damage to aircraft and property, disrupt passengers and delay aircraft. You must learn to prevent ALL accidental loss. Identifying hazards and assessing risks*, deciding what precautions are needed, putting them into place and checking they *are* working protects people and are requirements of the Health and Safety at Work (etc) Act 1974. Successful implementation improves quality and safeguards aircraft and equipment. Your company Health and Safety Policy document should embrace your Safety Policy and should influence all your airside activities, including the selection of people, equipment and materials, the way work is done and how you design and provide goods and services.

A written statement of your policy and the organisation and arrangements for implementing and monitoring it, shows your staff, and anyone else, that hazards have been identified and risks assessed eliminated or controlled.

*A *Hazard* is something with potential to cause harm. *Risk* is the likelihood of that potential being realised.

Ask yourself.....

- Does your Company's Health and Safety Policy include a clear policy for Airside Safety and is it written down?
- Does it specify who is responsible and the arrangements for identifying hazards, assessing risks and controlling them?
- Do your staff know about the policy and understand it? Are they involved in making it work?
- Is it up to date?
- Does it change behaviour, prevent injuries, reduce losses and really affect the way people work?

STAGE 2 – ORGANISE YOUR STAFF

To make your Airside Safety policy effective you need to get your staff involved and committed. This is the Safety Culture and is summarised below.

Competence: recruitment, training and advisory support.
Assess the skills needed to carry out all the tasks safely.
Provide the means to ensure that all employees, including temporary staff are adequately instructed and trained.
Ensure that people carrying out the more dangerous work have the necessary training, experience and other qualities to carry out the work safely.
Arrange for access to sound advice and help.

Control and commitment: allocating responsibilities and securing commitment.
Lead by example: demonstrate your commitment and provide clear direction.
Identify people responsible for particular Airside Safety jobs, especially where special expertise is required.
Ensure that supervisors understand their responsibilities.
Ensure all employees know what they must do and how they will be supervised and held accountable.

Co-operation: between individuals and groups.
Consult with other organisations who share the Airside workplace.
Consult your staff and their representatives.
Involve your staff and other organisations in planning and reviewing performance, writing procedures and solving problems.

Communication: verbal, written and visible.
Provide information about hazards, risks and preventive measures to your staff and any other organisations with whom you come into contact at work.
Discuss Safety regularly.

Ask yourself.....

- Have you allocated responsibilities for Safety to specific people? Do you have the right level of expertise? Are your people properly trained?

- Do you consult and involve your staff and their safety representatives effectively?

- Do you consult with fellow organisations at your workplace and share information about risks?

- Do your staff have sufficient information about the risks they run and the preventive measures?

- Do you need specialist advice from outside the organisation and have you arranged to obtain it?

STAGE 3 – PLAN AND SET STANDARDS

Planning is the key to ensuring that your Safety efforts really work. This involves setting objectives, identifying hazards, assessing and prioritising risks, implementing standards of performance and developing a positive culture. It is useful to record your plans in writing. Your planning should provide for:

- A formal Risk Assessment programme, identifying hazards and controlling risks, and deciding how they can be eliminated or controlled. A model for a general Risk Assessment programme is printed at the end of this section.
- Complying with regulations and legislation that apply to you.
- Agreeing safety targets with managers and supervisors.
- A purchasing and supply policy which takes safety into account.
- Design of tasks, processes, equipment, services and safe systems of work.
- Procedures to deal with serious and imminent danger.
- Co-operation with neighbours.
- Setting standards against which performance can be measured.

Standards must be *measurable, achievable and realistic* and help build a positive culture and control risks. They should identify who does what, when and with what result and apply to:

- Premises, aircraft ground handling and environment control.
- Purchase, supply, transport, storage and use of plant and substances.
- Procedures, design of jobs and the way work is carried out.
- People training and supervision.
- Design, delivery, transport and storage of products and services.

Many industry based standards already exist and you can adopt them where applicable. In other cases you will have to seek advice and set your own, preferably referring to numbers, quantities and levels which are seen to be realistic and can be checked. For example:

- Specifying standards for high visibility clothing.
- Specific levels of training for particular vehicle operations.
- Formal procedures for consultation.
- Methods for informing staff of changes to legislation and regulation.

Ask yourself....

- Do you have an Airside Safety plan?

- Is Airside Safety always considered before any new work or procedure is put into place?

- Have you identified hazards and assessed risks for your own people and those who may be affected by your actions and set standards for premises, plant, substances, procedures, people and products?

- Do you have a plan to deal with serious or imminent danger?

- Are the standards implemented and the risks effectively controlled?

STAGE 4 – MEASURE YOUR PERFORMANCE

Just like finance, production or sales, you will need to measure your Airside Safety performance to find out if you are being successful.

You need to know:

- Where you are
- Where you want to be
- What is the difference – and why

There are two key components of monitoring systems

Active Monitoring (before things go wrong). Implementing the standards you set yourself and measuring their effectiveness

Reactive Monitoring (after things go wrong). Investigating incidents and accidents, including near misses and identifying in each case why performance was below standard and then communicating the lessons learned.

You need to ensure that information from both active and reactive monitoring is used to identify situations that create risks, and to do something about them. Priority should be given where the risks are most serious. Look closely at serious events and those with potential for serious harm. Both require an understanding of the immediate and the underlying causes of events. Investigate and record what happened – find out why. Refer the information to the people with authority to take remedial action, including organisational and policy changes.

Ask yourself.....

- Do you know how well you perform in Airside Safety?
- How do you know if you are meeting your own standard for Safety?
- How do you know you are complying with the legislation and regulations that affect your business?
- How great are your losses?
- Do you have accurate records of accidents and incidents and the consequent injuries to staff?

STAGE 5 – LEARNING FROM EXPERIENCE – AUDIT AND REVIEW

Monitoring provides the information to enable you to review activities and decide how to improve performance. Audits, by your own people or outsiders, complement monitoring activities by looking to see if your policies, organisation and systems are actually achieving the right results. They tell you about the reliability and effectiveness of your systems. Learn from your experience. Combine the results from measuring systems with information from audits to improve your approach to Airside Safety Management. Review the effectiveness of your policy, paying particular attention to:

- The degree of compliance with your Safety Standards, including legislation.
- Areas where standards are absent or inadequate.
- Achievement of stated objectives within given time scales.
- Injury, accident and incident data, analysis of immediate and underlying causes, trends and common features.

These indicators will show you where you need to improve.

Ask yourself.....

- How do you learn from your mistakes? What monitoring actions do you employ?
- Do you operate an Airside Safety audit system?
- What action is taken on the audit findings?
- Does the audit involve staff at all levels? When did you last review your policy and performance?

FOOTNOTE

This approach to managing Airside Safety is tried and tested and is directly taken from Successful Health and Safety Management produced by the HSE.

It has strong similarities to the principles underlying quality management used by many successful companies. It can help you to protect people, aircraft and control loss. All five steps are fundamental. How well did you answer the questions about each step? If you think there is room for improvement, **act** today: don't **react** to an accident tomorrow.

QUESTIONNAIRE

Model Questionnaire Briefing

How well are we doing? Where do I need to direct my effort, place my focus?

These are common questions posed by senior management. Within the hierarchy of audits, inspections and self-audits there will be the need to take the temperature of the organisation and its readiness to deal with Airside Safety. The following questionnaire has been developed as a way of assessing the state of an enterprise in the beginning and then subsequently to identify improvement.

Safety professionals completing the questionnaire together with senior managers will generate a common understanding and lead to a common agenda within the company. It should not be used in a threatening or competitive manner.

Scoring

A five point scale will apply to each question. The score represents a judgement on whether compliance is known to be achieved.

1	2	3	4	5
Does not comply	Mostly does not comply	Half compliance Half non-compliance	Mostly compliance	Compliance in all respects

The questionnaire style should be conversational and the scoring should follow from a general judgement of the answers. All questions apply to all briefings. Where a question cannot be answered the score should be marked down using the rationale that compliance should be known to be achieved.

STAGE 1

SET YOUR POLICY

Questionnaire	Briefing for	Date

	Score
• Does your local Health and Safety Policy include a written policy statement for Airside Safety?	
• Does the policy specify the arrangements for identifying hazards, assessing risks and controlling them?	
• How is the policy communicated to your staff and how do you ensure that they understand it?	
• How is it kept up to date?	
• How effective is the policy at changing behaviour and preventing injuries? Does it affect the way you or your people work?	
Total	
Max. Possible	25

STAGE 2

ORGANISE YOUR STAFF

Questionnaire	Briefing for	Date

	Score
• Have you allocated specific responsibilities for Airside Safety? Do you have the right level of expertise? Are your people properly trained?	
• Who do you consult with? Do you have Airside Safety Representatives? How are your staff and their representatives involved?	
• How do you consult with fellow organisations, departments or colleagues at your workplace and share information about hazards and risks?	
• What information do your staff have about the risks they run and the preventive measures that are in place?	
• What specialist advice do you need from outside your local area and have you arranged to obtain it?	
Total	
Max. Possible	25

STAGE 3

PLAN AND SET STANDARDS

Questionnaire	Briefing for	Date

	Score
• Do you have an Airside Safety plan covering, for example, training, briefings, familiarisation, exercises, standards of performance?	
• Is Airside Safety always considered before any new work or procedure is put into place?	
• Do you have a risk assessment programme? How do you identify hazards and assess risks for your own people, aircraft, plant and premises and those who may be affected by actions of your people?	
• Do you have contingency plans to deal with serious or imminent danger covering, for example, spillage, damage, fire, accident?	
• What Key Result Areas apply? Does 'Safety' feature in your Key Result Areas and those of your subordinates? Does it relate to Airside Safety?	
Total	
Max. Possible	25

STAGE 4

MEASURE YOUR PERFORMANCE

Questionnaire	Briefing for	Date

	Score
• Do you know how well you perform in Airside Safety? Would you know if you are meeting your own standard?	
• How do you know you are complying with the legislation and regulations that affect your business?	
• Do you have accurate records of accidents and incidents and the consequent injuries to staff or damage to aircraft?	
• How great are your losses e.g. time, money, consequential absence?	
• How is your and your subordinate's performance in the key areas of Safety measured?	
Total	
Max. Possible	25

STAGE 5

LEARNING FROM EXPERIENCE – AUDIT AND REVIEW

Questionnaire	Briefing for	Date

	Score
• What monitoring actions do you employ? For example, Surveys, Inspections, Tours, Sampling, Contact.	
• How do you learn from your mistakes? Who reviews accident reports?	
• Do you operate an Airside Safety audit system? Does the audit involve staff at all levels?	
• What action is taken on the audit findings? How are they reviewed?	
• How do you monitor corrective action taken following accident inquiry recommendations? What is the follow-through process? When did you last review your policy and performance?	
Total	
Max. Possible	25

SUMMARY OF SCORES

Questionnaire	Briefing for	Date

Stage	*Subject*	*Score*
1	Set your Policy	
2	Organise your staff	
3	Plan and Set standards	
4	Measure your performance	
5	Learning from experience	
	Total	
	Max. Possible	125

RISK ASSESSMENT

An essential component of the Airside Safety Management programme is a formal structure for assessment of the Hazards and Risks.

The following model can be used to assess the effects of Task and Activities on the safety of your operation.

Completion Guidelines

On form 1

1 Identify the Task to be assessed. The form includes a list of typical tasks.

2 Describe the activities associated with the task. There are likely to be a number of activities.

3 Describe the control measures that exist. What are these precautions? Do they eliminate or reduce the risk to an acceptable level?

4 Using the Risk Category matrix, assess the risk. For those activities assessed as A, B or C a safe working practice will have to be established. Take particular note of the immediate cessation of activities associated with the assessed risk category 'A'.

On form 2

5 List the 'at risk' activities requiring further action.

6 Identify the action necessary to control the risk starting with the question 'can the risk be eliminated?'

7 Assign action to an individual and determine a target completion date.

8 Once the action has been completed the process should be repeated until the risk has been eliminated or controlled to an acceptable level.

9 Retain the Risk Assessment for future reference to compare with findings from Audits, near misses or accidents. If an accident should occur, examine the control measures previously identified as being acceptable to control the risk.

FORM 1 AIRSIDE SAFETY MANAGEMENT SYSTEM

TASK	ACTIVITY	EXISTING CONTROL MEASURES	RISK CATEGORY
Typical tasks that may be encountered around aircraft and therefore require a Risk Assessment would include: A/C pushback A/C servicing Baggage loading Baggage unloading Cargo loading Cargo unloading Catering Despatch Dressing Passenger boarding Passenger deplaning Refuelling	Activities associated with tasks could include: Approach A/C on Engine rundown Dangerous Goods Handling Driving Jetty Operation Manual Handling Raising Equipment Reversing Specialist Equipment operation OLD handling	What precautions are already in place, for example: Adequate information Training Safe working practices Enforcement Monitoring (Auditing)	

FORM 2 AIRSIDE SAFETY MANAGEMENT SYSTEM

TASK/ACTIVITY REQUIRING FURTHER ACTION	ACTION REQUIRED Note best practice in terms of measures that could be applied to this activity. Prioritise the order in accordance with the following list: (1) Eliminate – eg cease the activity or stop using the equipment altogether (2) Substitute by equipment or substances less hazardous (3) Prevent access to the aircraft by isolation from people/equipment (4) Provide a guard around the aircraft (5) Have written procedures known and understood by those affected (6) Ensure adequate supervision and enforcement (7) Identify training needs (8) Ensure there is adequate supervision and enforcement ***In many cases, a suitable combination of the above control methods may be necessary***	ACTION BY	COMPLETION DATE
List tasks from previous page here:	**List actions to be taken, including a combination of above:**	**Person who will take action:**	**Action to be complete by:**

RISK CATEGORY

The table below will help to identify whether existing control measures are adequate or whether further action is necessary. The use of the table will ensure that hazards which are likely to cause damage to aircraft are identified and further action taken to eliminate the hazard.

DAMAGE TO AIRCRAFT

Likely	Possible	Unlikely	Improbable
A	B	C	X

RISK OF DAMAGE

Likely	process or equipment will result in damage or near misses
Possible	anticipate that damage will occur at some time
Unlikely	remote possibility that damage will occur
Improbable	most unlikely that damage will occur

RISK LEVELS

A The process or use of offending equipment must cease immediately, pending elimination and/or reduction of the risk.

B Action to eliminate or reduce the risk of damage must be planned within a reasonable period (not more than 7 days) and action implemented within an agreed period.

C Action to eliminate or reduce the risk of damage to aircraft must be taken within a reasonable time. It is acceptable to assess any further measures as not being reasonably practicable in which case no further action need be taken.

X There is minimal risk of damage to aircraft and no further action required.

Part 3 Airside Planning

CONTENTS

1 INTRODUCTION

1.1 The operation of aircraft is the 'core' business of any aerodrome. Therefore, it is imperative that the planning process leads to timely provision of the necessary facilities for aircraft to be operated safely and effectively. For the purposes of this CAP, the planning process is defined as the management of change and development, with no degradation in the safety environment for the operation of new and existing facilities. The purely technical and financial elements of planning issues are not covered here and this Part is not intended to replace or supplement the detailed guidance which is available through publications such as the ICAO Aerodrome Design Manual for the design and provision of facilities. It seeks simply to capture those main themes which can be considered to be common principles affecting any airside planning process. In some situations plans may be 'Commercial in Confidence'. Nevertheless, the desire for confidentiality should not obscure the safety advantage to be gained from a full and early exchange of information with the relevant organisations in the formative stage of any project. Such early exchange should remain the objective.

1.2 It is fundamental that airport managers should not plan in isolation but must draw in, at all stages of the planning process, the ideas, understanding and experience of the range of operators at the airport. For planning matters it is essential to consider the following:

(a) Good communications with all operators at the airport.

(b) Broad and effective regular consultation with operators as a recognised element of planning.

(c) Shared risk assessments as part of planning for all categories of projects and works.

(d) The consistent application of best practice across the aerodrome.

(e) Good communication with the relevant CAA departments.

(f) Good communication with local planning organisations.

(g) Evaluation of human factor risks.

1.3 Good planning is not simply concerned with new development projects but should also include the management of such airside safety aspects as capacity, congestion, commercial access and change of use, in order to maintain a safe operating and working environment. At space-constrained aerodromes it is considered essential to develop, in co-operation with aircraft operators, joint policies to rationalise and limit the overall amount of equipment and traffic in use airside and particularly on the aprons.

1.4 It is important that planners evaluate what the 'Best Practice' option would be and justify in safety terms any anticipated shortfall.

1.5 To be successful there must be a full partnership in planning between the aerodrome management and the aerodrome community.

1.6 Airports need effective forums for communication with operators. These may consist of many different bodies at a large aerodrome or a single multi-disciplined committee at the smaller aerodromes. They come under a variety of suitable titles but, for the purposes of this Part, just two example committees are identified as follows:

(a) Airport Operators Committee – to represent operators' interests in discussion of all airport activities.

(b) Airside Safety Committee – a joint forum to consider all safety aspects of aerodrome operations.

1.7 This Part of CAP 642 seeks to establish and develop those themes and principles which apply equally to all categories of aerodrome.

1.8 The main elements for promoting effective safety management in aerodrome planning are shown in the following block-schematic diagrams.

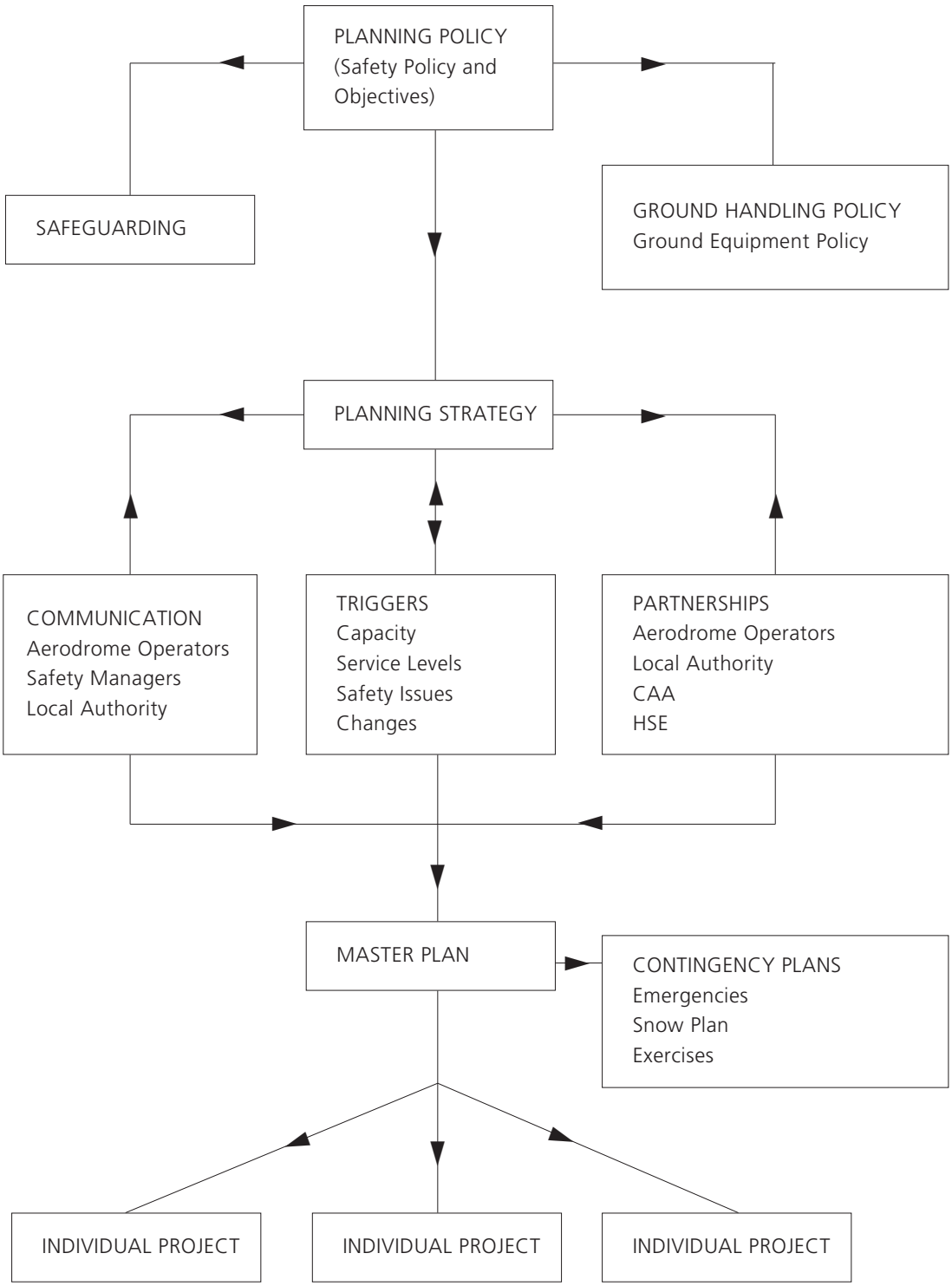

Figure 1 Developing the Master Plan

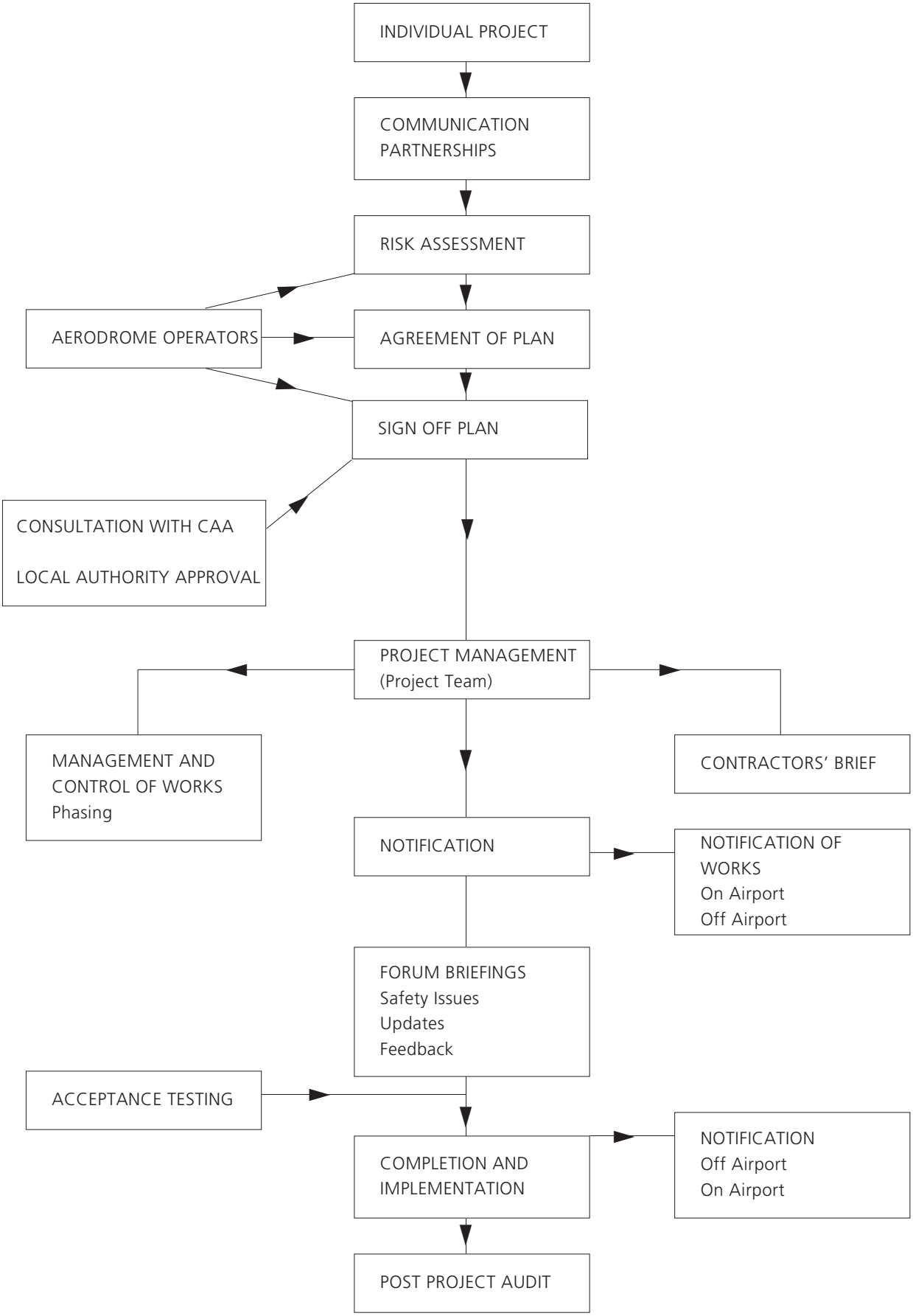

Figure 2 Planning the Project

2 THE PLANNING PROCESS

2.1 Effective planning is the basis for the safety and success of all airside operations and it is essential that Aerodrome Licensees should establish a comprehensive planning policy for their aerodrome. Planning policy must be in harmony with the Safety Management System and set out the organisation, process and broad standards to be employed. The policy should be written down for the guidance and compliance of all agencies involved in the planning process and should embody the following components:

(a) The establishment of effective communication with the aerodrome community to ensure their close involvement in planning matters.

(b) Agree and set standards for service levels and capacity and identify the 'triggers' for change that will initiate planning action, including the principle that demand and capacity should move forward in unison.

(c) The timely identification of needs on the basis of 'what is to be planned' and 'why is it to be planned'.

(d) Consideration of the ways that the needs can be met.

(e) In accordance with the Safety Management System, incorporate safety considerations in all planning activity from the beginning, recognising that capacity demands should not drive safety issues.

(f) Incorporate risk assessment as a routine element of the process. Risk assessment need not necessarily be a complex or costly process. Many risk assessments will consist only of a series of simple questions and answers in which further action aimed at risk minimisation is identified

(g) Select and obtain agreement on the best solution to meet the requirements of the plan or the project.

(h) Maintain flexibility and retain the ability to embody change if or when unforeseen factors arise.

(i) All parties 'sign-off' the plan at the end of the planning stage.

(j) Together with the aerodrome community, monitor the provision of the service or facility to completion.

(k) Review and audit new provisions after commissioning.

2.2 The essential principles in any Safety Management System are as follows:

(a) The evaluation of safety impact **must** be conducted systematically.

(b) The safety implications of change **must** be evaluated.

(c) Any reduction in safety **must** be justified.

The above applies to projects and to routine developmental change.

3 PLANNING STRATEGY

3.1 Joint Planning Approach

In many cases the majority of technical and administrative planning work may be carried out by the airport specialist department; however, airport management should not plan in isolation. It is essential to establish a team approach to aerodrome planning with the full involvement of the aerodrome community and the incorporation of their experience, expertise and ideas. In some cases detailed planning work could be delegated to aerodrome operators or independent consultants. The joint planning approach should embody the following:

(a) Recognition of the nature and needs of the industry in general and the aerodrome in particular. General trends and regulatory changes should be dealt with within an agreed timescale.

(b) Recognition of the need for continuous monitoring and analysis of aerodrome operations and co-ordinated development to meet any agreed requirements.

(c) Built-in systematic safety considerations of all planning initiatives as part of the Safety Management System.

(d) Effective multi-way communications to promote a 'no surprises' planning environment. Operators should keep the Aerodrome Licensee informed of impending company policy changes or the introduction of new aircraft, services or equipment to permit early consideration of the implications and needs.

(e) Allowance of sufficient time for communication, including any operators' planning and policy functions that are off-airport and may require longer communication lead times.

(f) Links with the local authorities to ensure receipt of information on development activity in the local area.

3.2 Planning Information

Effective planning relies on the analysis of accurate statistics and information on performance in order to determine trends and to forecast future demands and requirements. A joint system should be in place to collect, record and analyse the relevant data and present them in suitable formats for planning, safety management and forecasting purposes.

3.3 Planning Triggers

Agreement should be reached with all the aerodrome operators to identify and specify the range of performance indicators that will be used to trigger the necessary planning action to resolve any shortfall in facilities. Performance indicators should be decided for all fields of operation in terms of capacities, levels of service, safety of operations and acceptable levels of performance. There is always a danger that a particular demand may dictate change and development without due consideration of all the attendant safety factors. Any tendency for incremental development which gradually erodes safety margins must be avoided.

4 PARTNERSHIPS IN PLANNING

4.1 Local Partnerships

4.1.1 It is paramount to the success of aerodrome planning to establish the philosophy and practice of involving and consulting with the aerodrome community at all stages. Without proper and regular consultation with its operators, an aerodrome authority's plans may be flawed. Not only do the operators know best how they work and what is needed for a safe and efficient operation, but it is likely that there is a wealth of expertise available within their own workforce. Partnership in planning should exploit all the knowledge, experience and ideas from all interested parties. A further benefit is the co-operation and good relationships that can be forged by communication and consultation.

4.1.2 The aerodrome authority will normally lead and direct the consultation process, which should include aircraft operators, ground handlers and those contractors providing principal aircraft services such as catering, aircraft cleaning and fuelling. Where appropriate Air Traffic Control (ATC) should be involved. It is important that representation is at a suitably senior level to ensure cogent input and decision making.

4.1.3 In addition to any safeguarding links (further discussed at paragraph 10.2) it is also important to involve local planning authorities in a more general way in order to secure their support, understanding and possible input. The Aerodrome Licensee needs to know about local development plans in order to assess their impact on aerodrome operations. The police and local emergency services should be involved in aerodrome emergency planning and emergency exercises.

4.2 Partnership with the Civil Aviation Authority (CAA)

4.2.1 Under the terms of the Aerodrome Licence there is a statutory duty to advise the Authority about proposed changes to the aerodrome. Such consultations are normally conducted in co-operation with the Authority's Aerodrome Safeguarding and Development Section (AS3).

4.2.2 It is good practice to consult with the CAA (AS3) at an early stage in any aerodrome project when proposals and plans are at the concept stage so that the broad requirements of the licensing process can be protected. Advice should certainly be sought before any significant finance and resources are committed. It is at this stage that AS3 will co-ordinate all the expert opinion on licensing standards issues and, if necessary, arrange a development meeting with representatives of the aerodrome planning team and the appropriate SRG departments. In the case of some proposals or projects, normally small projects at the smaller aerodromes, AS3 will hand the CAA responsibility over to the Aerodrome Inspectorate.

4.2.3 This early contact is seen as beneficial to the planning process as it is important not to go too far down the planning path without assessing the possible effects of any development against the range of safeguarding and safety criteria. A checklist of the principal criteria is at Appendix A.

4.3 Partnership with Department of Transport (Security)

Early liaison should be established with the Department of Transport Aviation Security Branch (AVSEC) on all projects with airport security implications, such as alterations to existing Security Zones.

5 COMMUNICATION

5.1 Communication Methods

It is essential that the Aerodrome Management considers how they will communicate with airside operators on matters of aerodrome planning. It is important to establish and document systematic processes for effective two-way communication for the timely discussion and resolution of aerodrome planning issues and events. Good communication promotes satisfaction and confidence in the joint decisions that are achieved and compliance with the planning arrangements that follow. It is critical to success to establish suitable forums (or a single body) for the discussion and resolution of performance, development and planning matters with the aerodrome community and to share information and ideas.

5.2 Representation

5.2.1 The selection of representatives for planning and safety groups will largely depend on the purpose of the meeting or committee concerned. However, it is fundamental that representation is at a suitably senior level to enable effective discussion and decision making to be achieved. For safety matters it is strongly recommended that for each company or group one person is nominated as accountable for its Airside Safety Management and as the first point of contact for airside safety issues.

For the purpose of this Part of CAP 642, only one of a possible range of committees, has been selected as an example of how the Airport Community can plan and resolve issues of fundamental interest to them all and that example is 'The Airside Safety Committee'. At the smaller Airports and Aerodromes this committee could be the single forum for discussing and resolving all mutual issues, whereas at the largest Airports it may be one of several committees with a sharper focus – in this case – Airside Safety.

5.3 Airside Safety Committee

5.3.1 The Airside Safety Committee provides the essential partnership between aerodrome managers and airside operators to communicate and resolve matters of airside safety and operations. The committee is likely to be headed and administered by senior aerodrome managers and, as well as selected aerodrome authority specialist managers, should have a wide membership of airside operators. Representatives from police, emergency services and ATC could also be included, or briefed periodically on issues that concern their operations. There is a potential for this committee to be a very large group, particularly at the bigger airports. To maintain membership at a manageable level, joint operator groups, such as a Ramp and Baggage Committee or a group of fuel companies could consider nominating selected members to represent group interests. The committee should be given the following broad tasking:

(a) Act as the focus for shared ownership of, and responsibility for, airside safety issues.

(b) Develop policies for safe apron operations.

(c) Consider and resolve apron safety problems.

(d) Promote apron discipline.

5.3.2 Model Terms of Reference are at Appendix B.

6 MASTER PLAN

It is critical to success that a Master Plan is produced for the aerodrome. This should be based on a series of broad concepts of how the aerodrome will need to develop over a given time. This plan will need to be the subject of comprehensive consultation and general agreement by the planning team. A Master Plan can take the form of a simple listing of objectives and projects, or at the other end of the scale may be a complex set of documents produced by the dedicated planning team with inputs from all parts of the business. The Master Plan should embody the following general characteristics:

(a) Safety must feature as one of the Key Master Planning Objectives and a requirement for safety assessments for all developments should be formally expressed. This should be reflected in the Airport's Safety Management System.

(b) The plan will need to take into account forecast demand for a range of aerodrome activities including traffic levels, passenger numbers, freight throughput and the maintenance or improvement of service levels, together with any special requirements applicable to the aerodrome.

(c) The plan should cover a fixed timescale depending on aerodrome needs and expected future events.

(d) The plan should have flexibility, with arrangements in place for review and updating to meet changing situations.

(e) The plan should be designed to act as the focal point of planning activity such that developments flow from it in an ordered and co-ordinated fashion. Every project should be considered within the context of the whole plan. All too often projects completed in isolation have precluded later development or resulted in limited choice and/or an erosion of safety standards

7 CONTINGENCY PLANS

7.1 Aerodrome management will need to formulate and maintain a series of contingency plans for all spheres of aerodrome operation and these plans should be associated with the Master Plan to ensure proper integration in the planning process.

7.2 To maintain effective operation of the aerodrome a range of contingency plans is required to meet emergency or exceptional operating conditions. The size and scope of these plans will depend on the size and complexity of the aerodrome. In all cases it is essential that contingency plans are subject to continuous review and tested by regular exercises.

7.3 Amongst the more important contingency plans for aerodrome operations are, for example:

(a) Aircraft air and ground emergencies.

(b) Operations in hazardous conditions of low visibility, strong winds and snow and ice clearance.

(c) Material hazards and spillages.

8 GROUND HANDLING POLICY

8.1 Apron Congestion

Congested operating conditions are a direct threat to a safe apron environment and the degree of ramp congestion is often directly related to the total numbers of vehicles and equipment permitted/required to park and operate on the apron. At those aerodromes that have space constrained and congested apron areas, it is essential that measures are taken to reduce the amount of equipment and vehicles present on aprons and airside roads, e.g. by reducing the proliferation and duplication of vehicles and equipment. It might be possible to relieve congestion by controlling the number of operators permitted to provide ground handling services on the aerodrome where it is not in conflict with other legislation. Aerodrome licensees should be aware of and refer to the Directive and the implementing Regulations covering the provision of ground handling services, in order to ensure that they do not contravene such provisions.

8.2 General Handling Policy

8.2.1 To reduce congestion and promote safe apron operations, aerodrome management should consider the implementation of a ground handling policy which has the specific aim to control to safe limits the number of ground handling vehicles that are permitted to provide ground handling services.

8.2.2 Congestion is a shared problem and an initiative should be undertaken with ramp operators to examine and resolve issues of equipment proliferation and duplication. This could include a census of ground handling equipment and vehicles in which individual holdings should be examined and justified. An ideal forum for this work would be a sub-group of the Airside Safety Committee (see paragraph 5.3).

8.2.3 Airports should ensure that all suppliers of ground handling services are required to comply with appropriate airport rules of conduct and statutory safety requirements. Contracts and written agreements are vehicles for such controls. Airports should monitor compliance by the providers of the service.

8.3 Other Controls

If it is impracticable for other reasons (such as a competition policy legislation) to reduce the number of vehicles operating in congested apron areas to the preferred level, it will be necessary for the aerodrome management to manage any degradation of safety by the introduction of mitigation measures.

9 APRON EQUIPMENT INITIATIVES

Further measures are available to ease apron congestion by rationalising equipment and vehicle use and numbers. Congestion is a shared problem and an initiative should be undertaken with ramp operators to examine and resolve issues of equipment proliferation and duplication. An ideal forum for this work would be a sub-group of the Airside Safety Committee (see paragraph 5.3). The following should be considered:

(a) A census of ground handling equipment and vehicles in which individual holdings should be examined and justified.

(b) A review of overall vehicle and equipment needs with the aim of reducing numbers.

(c) Procedures for the identification and removal of scrap, obsolete and redundant vehicles and equipment from airside.

(d) The use of standard equipment for some handling functions.

(e) The employment of common-use equipment where and when possible, particularly specialist equipment which is subject to only occasional use.

(f) The matching of vehicle dimensions and manoeuvring characteristics (in terms of maximum length and width and turning radii) to ensure compatibility with the layout of aprons and airside roads.

10 SAFEGUARDING

10.1 Safeguarded Surfaces and Public Safety Zones

The safeguarded surfaces around runways, as detailed in CAP 168 'Licensing of Aerodromes' are designed to protect runway operations from local obstructions. Many aerodromes are formally safeguarded with local authorities as a CAA administered policy which checks all local developments against standard safeguarded surfaces. A similar Department of Transport policy requires the establishment of Public Safety Zones (PSZs) around the extended centrelines of those runways which meet the PSZ criteria, some encroachment protection is then given within the designated areas.

10.2 Non Safeguarded Aerodromes

It is good practice for aerodrome managers to develop and maintain good planning communications with the local planning authority in order to establish working co-operation for safety planning based on safeguarding requirements. Whilst this is true for all aerodromes – officially safeguarded or not, this liaison is particularly important at non-safeguarded aerodromes. For non-safeguarded aerodromes it is also good practice to lodge a sample safeguarding map with the planning authority and develop their practical understanding of the principles in order to gain co-operation in safeguarding matters to ensure that no new development affects aircraft operations. The same links should be used to receive information on any developments in the vicinity of the aerodrome.

10.3 Control of Developments

Whether officially safeguarded or not, proposals for development should be checked against the criteria outlined in Appendix A.

11 PLANNING OF INDIVIDUAL PROJECTS

11.1 Development Need

The need for an individual project should ideally be drawn from the Master Plan as a result of some shortfall or demand as defined by the inbuilt 'triggers for change'. The outline operational requirement for a project can thus be established.

11.2 Planning Team

The planning of an individual project requires similar levels of communication and partnership as those described at paragraphs 4 and 5. A joint team should be nominated to develop the plan and progress it to the point where it is handed over to project managers. Leadership of the planning team would normally be retained by the aerodrome management but could be made the responsibility of an operator where the project is airline or tenant sponsored.

11.3 Risk Assessment

11.3.1 A risk assessment must be included as a safety management feature of every project or development. It is critical to success that the risk assessment is fully shared by aerodrome managers and the operators concerned.

11.3.2 Risk assessment should be carried out in accordance with the guidance given in Parts 1 and 2 of this publication. Risk assessment can be a very quick and simple evaluation as long as all safety aspects are considered and it leads to a safe provision and the establishment of safe working practices. In comparison a risk analysis is a much more complex process and is normally considered relevant to the largest developments only. Where it is considered necessary, for any new provision on the aerodrome, a Target Level of Safety (TLS) may need to be identified and met. The CAA Safety Regulation Group should be kept informed on TLS matters and may be able to offer appropriate guidance.

11.4 Agreement of the Plan

Once all safety and operational aspects/options have been considered, it is important that all concerned agree that the plan represents the best safe solution available for the development in hand. Any reductions in safety levels must be justified and approved under the appropriate Airport Safety Management System process.

11.5 Sign-Off the Plan

For any project, facility or service, when planning action has been completed and the plan has been agreed it should be set down in writing and circulated to the members of the planning team. All participating parties should be required to 'sign-off' the plan as a certificate of their acceptance that the content, scope and safety provisions meet the defined need. The flexibility built into the planning strategy enables subsequent updating and amendment if unforeseen circumstances arise, however, the amended plan should again be 'signed-off' after drafting. The processes of clearing safety issues should be part of the Airport's Safety Management System.

11.6 Formal CAA Approval

Notwithstanding any prior consultation undertaken with CAA departments (as described in paragraph 4.2), under the provisions of the Aerodrome Licence, formal notification to the CAA will need to be given before the project is started. However any prior consultation should significantly ease the path of the project.

12 MANAGEMENT OF PROJECTS

12.1 Project Team

Aerodrome managers should establish a formal process for the management of projects to provide a recognised standard approach. For each individual project a Project Manager should be nominated to manage the project. The project manager would normally be an employee of the Aerodrome licensee, but this is not necessarily the best arrangement in all cases. The project team should consist of people who have clearly defined responsibilities in the project programme. These may include representatives drawn from the operators and, if appropriate, the ATC provider.

12.2 Project Process

12.2.1 There should be joint agreement on the timing and phasing of the project which should also be subject to the approval of the planning team. Where airside tenants or area occupants are involved, the timing should also be agreed with them to permit alternative safety and operating arrangements to be made.

12.2.2 The project team should hold regular progress meetings to monitor and control the project and ensure firm maintenance of project safety and operational objectives. The team should be aware of the project risk assessment and be prepared to test the validity of the conclusions of that assessment. There should be close monitoring of the safety of aerodrome/apron operations while project engineering work is in progress and when reaching decisions, engineering priorities should be subordinate to the maintenance of safety standards.

12.3 Progress Information

The project team should arrange for regular briefings and updates to be given to the appropriate aerodrome departments and organisations.

12.4 Completion

When construction, installation and layout activity has been completed the product should be tested operationally, to ensure that it meets its specification and is acceptable in service. The work should then be 'signed off' by the project team as meeting safety and operational requirements. At a suitable interval after commissioning a post project audit should be undertaken.

12.5 The Construction (Design and Management) Regulations 1994 (CDM)

For further details applicable to the planning of construction projects arising from the CDM Regulations, see Appendix D.

13 COMMUNICATION AND NOTIFICATION

13.1 Notification Requirement

13.1.1 Aerodrome managements should develop a comprehensive system for the communication and notification to the aerodrome community of aerodrome developments which have safety significance and any related rules. Notification

should take the form of written 'Safety Instructions' and compliance with these instructions should be part of the 'Conditions of Use' of the aerodrome. These instructions would normally be produced and distributed as printed documents and it is good practice to make them instantly recognisable by the use of coloured bars, or corners, or some other device on the face page.

13.1.2 The following characteristics are suggested for incorporation into the aerodrome notification system:

(a) In addition to a document title, a numbering system should be used to identify individual instructions.

(b) A full distribution list covering all aerodrome operators and agencies should be used. Responsibility should be placed upon operators and agencies to ensure that aerodrome instructions are brought to the attention of all their staff. (A standard statement of words on the face page of the instructions is useful for this and an example is included at Appendix E.)

(c) Instructions should be issued in sufficient time to enable full circulation to operators and their staff and permit arrangements for compliance to be completed. This should include any alternative safety and operating arrangements.

(d) Amendments to instructions should be issued as appropriate.

(e) An index of current instructions should be issued at regular intervals and back copies of instructions should be available for issue to new operators and agencies.

(f) Instructions should be formally notified as cancelled when their validity is ended.

(g) Electronic information distribution systems could be used to augment, but not replace, the printed instruction system.

13.1.3 Aerodrome management are normally responsible for any associated NOTAM action and other notification on or off the airport, including liaison with ATC to agree and promulgate changes to facilities and procedures.

14 CONTRACTORS AIRSIDE SAFETY BRIEFING

14.1 General Requirements

Before a contractor starts work at any airside location, it will be necessary for aerodrome managers to provide a comprehensive safety briefing for the protection, guidance and compliance of works/site supervisors and staff. As a basis for mutual safety planning it should be a requirement of the contract that the contractor must have in place a Safety Management System compatible with that of the aerodrome and which also meets all statutory requirements. This should ensure that supervisors and staff comply with airside rules and works arrangements.

14.2 Contractors' Briefing

The aim of a contractors' briefing is to provide him and his staff with all the relevant safety information needed to achieve the safe completion of any works or activity, without threat and with the least disruption and congestion of normal operations. The briefings provided for term contractors providing maintenance services and those contractors employed for a single project may differ in format but will have the same

general content. A written safety briefing should be issued to the contractor as part of the contract and should cover the following:

(a) The general layout of the aerodrome including airside access points.

(b) The location and limits of the works area and the location and limits of contractors sites and storage/parking areas.

(c) The specific security access points to be used and the location and marking of the access routes to be used to reach airside sites.

(d) Methods of control and access for works sites within the Manoeuvring Area including arrangements for crossing taxiways and runways.

(e) The methods and equipment to be used for protecting, marking and lighting the boundaries of works sites and for protecting normal aerodrome operations in the vicinity of the site. Also the requirement to control site lighting to prevent distraction of aircraft crews and airside drivers.

(f) The strict timing for the setting up works sites, the start of work, daily permitted working hours at the site and the procedures to be followed for starting and stopping work.

(g) A clear statement of the supervision and liaison structure for the safety management and monitoring of works, including contact details for the key duty personnel concerned. Airside emergency procedures and emergency telephone arrangements should also be covered

(h) Vehicle and equipment requirements, operating rules and the requirements for staff discipline.

(i) Information on the special safety requirements for aircraft operations in the vicinity of works and the methods of control available on the Manoeuvring Area, including RTF procedures if appropriate.

(j) Arrangements for the special control of 'hot works'.

(k) Requirements for the operation of cranes and other tall structures.

(l) Arrangements for the receipt and movement of heavy or bulky loads.

(m) Requirements for vehicle and area cleanliness, also the implications of Foreign Object Debris (FOD) and loose rubbish hazards for aircraft operations.

(n) The arrangements in place or to be made for the disposal of waste.

(o) Information on the safety implications for their site and staff of special aircraft hazards including blast, vibration, fumes and noise, and also for the site structure to be secure in the event of strong winds.

(p) Information on aerodrome regulations for hearing protection and the use of high visibility clothing.

14.3 Staff Briefing

14.3.1 Contractors' staff must be briefed on personal safety issues and the special hazards and rules for their safety whilst on the aerodrome. A verbal briefing is effective because it permits staff to raise safety points and ask questions. It is good practice to produce and issue a general briefing and reference pamphlet and in some cases it may be appropriate to require staff to sign as having understood the briefing.

14.3.2 The staff briefing should include the following:

(a) Airside rules, including give-way rules and vehicle driving rules and requirements.

(b) A resume of the special hazards that may be encountered on the aerodrome and in the vicinity of aircraft with particular emphasis on engine hazards.

(c) Emergency procedures and how to summon help.

(d) The need to remain clear of taxiways and runways and the recognition/warning features when approaching a taxiway or runway.

(e) Action to be taken in the event of becoming lost and the implications and requirements if low visibility conditions are in force.

(f) The implications of night operations.

(g) The limits of no smoking rules.

(h) The use of protective equipment and clothing, particularly hearing protection and the wearing of high conspicuity garments.

(i) The requirements for the control of debris, obstructions and rubbish, including the proper disposal of waste.

(j) The hazard of food waste as a bird attractant.

(k) The requirement to follow specified routes and remain within areas for their work.

(l) Any ID or pass requirements for staff or vehicles.

15 CONTROL AND MANAGEMENT OF WORKS

15.1 Requirement

As part of the effective safety management of the aerodrome it is essential that, before any work on the Movement Area is authorised, aerodrome managers are satisfied that arrangements are in place which ensure that there is no adverse impact on existing levels of safety. Aerodrome managers should develop and implement a formal system for the strict control, safety management, safeguarding and safety co-ordination of all airside works. To ensure willing compliance on the part of works operators the system should be positive, user-friendly and not appear unnecessarily restrictive, but should be recognised as a benefit that facilitates, protects and co-ordinates the conduct of airside works.

15.2 System Characteristics

The following are the basic safety features and procedures which should ensure that work on the Movement Area is properly conducted and controlled:

(a) The control procedure should link smoothly with the system of notification of Safety Instructions for significant development works. See paragraph 13.1.1.

(b) The system must be safety driven and supervised daily by duty aerodrome operations staff who should have a firm grasp of the works programme and the operational implications.

(c) A permit/approval system should be used to authorise and record the works and should incorporate a comprehensive briefing given by aerodrome management directly to the person supervising the work. An additional permit system should be used for the approval of 'hot work'.

(d) The briefing should cover all safety aspects of the work including permitted hours, site layout, site marking and protection, communications to be used, requirements for look-outs and leader/follow-me vehicles, any significant operational activity in the vicinity of the works area and any limitations to be observed.

(e) Duty aerodrome staff should be responsible for all aerodrome, or part aerodrome closures, operational clearances and co-ordination associated with the work and any notification that is required for both 'on-airport' and 'off-airport'. The works area must be inspected when first set up, then subject to regular monitoring, particularly for night work. The area should be inspected again when work is completed and before approval is given for normal operations to be resumed.

15.3 Model Safety Instructions

15.3.1 See the Model Safety Instruction entitled – SAFETY INSTRUCTIONS FOR WORKS ON THE MOVEMENT AREA AND PROCEDURE FOR THE ISSUE OF WORKS PERMITS – at Appendix E.

15.3.2 See the Model Safety Instruction entitled – HOT WORKS IN EXTERNAL AIRSIDE AREAS – at Appendix F.

16 THE AERODROME MANUAL

16.1 It is essential that the policies and procedures covering planning and development of projects outlined in this Part are included in the Aerodrome Manual.

16.2 Guidance on the production of an Aerodrome Manual is available as part of the Aerodrome Safety Management Initiative, from the CAA.

Appendix A – Aerodrome Safeguarding Criteria

MANPOOL AIRPORT

CHECKLIST OF AERODROME SAFEGUARDING CRITERIA

1 At an early stage in any project it is prudent to check the effects of the development against the relevant safeguarding criteria listed under the following headings:

(a) Is there any penetration of ICAO Annex 14 or CAP 168 obstacle limitation surfaces?

(b) Is there likely to be any obstruction of radar reference surfaces and if so is such obstruction acceptable in terms of Air Traffic Control?

(c) Will the development affect ILS signals or any other navigation and communication aids on the aerodrome?

(d) Are any lighting schemes associated with the development likely to distract aircraft crews or be confused with visual guidance systems, for example, floodlighting, illuminated signs, car park or street lighting?

(e) Are any landscaping schemes (trees, lakes etc.) likely to attract birds?

(f) Is the development likely to obstruct approach lighting arrays or the planes of Precision Approach Path Indicators?

(g) Is the development likely to affect Obstacle Clearance Heights?

(h) If a Public Safety Zone (PSZ) is established at the aerodrome, is the development likely to increase the numbers of people living, working or congregating within the zone?

2 The list is not exhaustive but covers the main areas of planning concern.

Appendix B – Airside Safety Committee – Model Terms of Reference

MANPOOL AIRPORT

TERMS OF REFERENCE – AIRSIDE SAFETY COMMITTEE

1 The aim of the Airside Safety Committee is to promote and maintain airside safety. It is the premier forum for the discussion and resolution of all apron safety issues.

2 The chairman of the committee will be the Manpool Airfield Operations Director.

3 Membership will comprise selected Manpool Airport managers and a broad representation of the airside operators and agencies across the airport. Individual representatives should be of a suitably senior level and should preferably be the nominated Operations Safety Manager.

4 The following are eligible to be represented:

(a) Aircraft Operators.

(b) Companies providing aircraft handling services.

(c) Fuelling companies.

(d) Local emergency services:– Police, Fire Service and Ambulance Service.

(e) Air Traffic Control.

(f) Manpool Airport specialist departments with airside responsibilities and interests.

(g) Specialist representatives may be co-opted from time to time at the discretion of the chairman.

5 The Committee will hold regular meetings. Meeting agendas will be circulated in a timely manner together with any relevant papers for members' consideration.

6 There will be a full distribution of Minutes of meetings. Any Actions arising from meetings will be annotated in the Minutes and it is implicit that these will be followed through.

7 The Committee may from time to time establish and nominate specialist Working Groups to consider and report on particular safety issues.

8 The Committee will receive and consider briefings on planning issues and provide operational safety advice on medium and long term changes expected in the industry, such as the introduction of new aircraft, major equipment and new regulations. It will also provide an interface for the examination and resolution of inter-company safety issues.

9 The Committee is a body of expertise and experience that will provide advice and report to airport management on airside and apron safety matters. In providing this advice the committee will consider all aspects of operational safety including the following, which are not in order of priority:

(a) Receive reports and statistics on accidents, incidents and emergencies and advise on trends and solutions.

(b) Receive reports and statistics on airside discipline issues and advise on trends and solutions.

(c) Apron congestion issues and advise on best solutions.

(d) Airside cleanliness issues.

(e) Identification and reduction of shared risks.

(f) Apron equipment issues.

(g) Airside traffic issues.

(h) Standard operating procedures for airside activities.

(i) New and updated airside safety instructions.

(j) Personal protective clothing/equipment issues.

(k) Environmental safety matters such as noise, blast and fumes.

(l) Methods to develop and promote apron safety awareness initiatives, such as poster campaigns and safety presentations/exhibitions.

(m) Snow and ice clearance issues.

(n) Receive reports on significant outages and breakdowns concerning airside fixed facilities.

(o) Receive engineers' briefings and reports on ongoing or imminent airside works and projects and provide safety advice.

NOTE: The existence of an Airside Safety Committee should not substitute for the Safety Management arrangements made by individual organisations represented on the committee.

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Appendix D – Planning of Construction Projects. The Construction (Design and Management) Regulations 1994

1 Part 3 [of CAP 642] relates to safety considerations in the planning of any process. However, it is necessary that any person involved in the planning of any construction project (including alteration, conversion, fitting out, commissioning and renovation, repair, upkeep maintenance, demolition, ground clearance and on services within a building) is aware of the requirements of the Construction (Design and Management) Regulations 1994 (CDM).

2 These regulations essentially require that the planning of any construction work, and the completed building, fully allow for high standards of health and safety.

3 These regulations take effect at the planning stage of a construction, and it is for this reason that a section is included within CAP 642. They place duties on the following:

- The client
- The planning supervisor
- The designer
- The principal contractor
- The contractors

4 The *Client* duties include the following:

- Appointing a planning supervisor
- Providing information on health and safety to the planning supervisor
- Appointing a principal contractor
- Ensuring that those you appoint are competent and adequately resourced to carry out their health and safety responsibilities
- Ensuring that a suitable health and safety plan has been prepared by the principal contractor before construction work starts
- Ensuring the health and safety file given to you at the end of the project is kept available for use

5 The *Planning Supervisor*, who has been appointed by the client, has duties including the following:

- Ensuring HSE is notified of the project
- Ensuring co-operation between designers
- Ensuring designers comply with their duties
- Ensuring a pre-tender health and safety plan is prepared
- Advising client when requested
- Ensuring a health and safety file is prepared

6 The *Designer* duties include the following:

- Making clients aware of their duties
- Giving due regard to health and safety in design work
- Providing adequate information about the health and safety risk of the design to those who need it
- Co-operating with the Planning Supervisor, and other designers

The duties placed on principal contractors and contractors are beyond the scope of Section 3.

The local office of the HSE can provide further information on the CDM regulations.

Appendix E – Works on the Movement Area and Works Permits – Model Safety Instruction

MANPOOL AIRPORT

SAFETY INSTRUCTION 1/9–

SAFETY INSTRUCTIONS FOR WORKS ON THE MOVEMENT AREA AND PROCEDURE FOR THE ISSUE OF WORKS PERMITS

> It is the responsibility of all employers to ensure that relevant Safety Instructions are brought to the attention of their staff. However, individuals remain responsible for their own actions and those who are in any doubt should consult their supervisor or manager.

1 INTRODUCTION

1.1 Construction, maintenance and repair work must regularly be carried out on the Movement Area and aprons at Manpool by day and night. This Instruction details the arrangements in place, the responsibilities of those involved and the procedure to be followed for the safe co-ordination and conduct of airside works.

1.2 Other Safety Instructions associated with airside safety procedures have been given wide circulation, but any organisation requiring copies should apply to the Manpool Airfield Operations Manager.

2 AERODROME AREAS CONCERNED

For the purposes of this Instruction the aerodrome areas in which the following special rules for airside works must be applied are:

(a) The Manoeuvring Area comprising runways, taxiways and associated grass areas.

(b) Aircraft parking areas and apron taxilanes.

(c) Other apron areas including equipment areas, airside roads, stillage areas and cargo handling areas.

(d) Any other area, location or site designated by Manpool Airfield Operations.

3 WORKS PERMIT SYSTEM

3.1 The supervisor or sponsor of any airside works must be in receipt of a Works Permit before any work can be started.

3.2 Applications should be addressed to the Airfield Safety Unit (ASU) by 1600 hours(L) on the last working day before work is scheduled to be carried out.

3.3 Applications should be made directly or by fax using Manpool Form XXX. ASU fax 1234–9876. A specimen copy of Form XXX is at Annex A.

3.4 In exceptional circumstances applications may be passed to the ASU by telephone on 1234–5678.

3.5 All Permits are authorised by the Operations Duty Manager (ODM) who will enter on the Permit the conditions applicable to the works which must be adhered to at all times. Permits coloured blue are used for Manoeuvring Area work and white permits for the remainder of airside. A copy of each permit is passed to ATC by the ODM for their information and action.

3.6 Before work commences the Permit must be collected from the ASU who will ensure that the works operator is fully briefed and equipped for the work to be undertaken.

3.7 When work is completed the works operator must inform the ASU who will then take the necessary action to restore the area to normal operations, or ensure that it is safeguarded.

4 EXEMPTIONS

Certain units are trained and authorised to conduct some urgent work and certain specified works on the Manoeuvring Area such as routine inspections, replacement of light fittings, repairs to pit covers and ILS adjustments, and are not subject to Works Permit authorisation, but clearance must be obtained from ATC. Working parties are to ensure that ATC is fully briefed as follows:

(a) Area(s) of works.

(b) Nature of work.

(c) Operational implications.

(d) Timing and notification of clearance of site and restoration of facilities.

(e) Name of responsible person in charge.

(f) Contact and 'listening-out' arrangements.

5 RESPONSIBILITIES

5.1 The ASU is responsible for the following:

(a) Issuing the Works Permit on behalf of the ODM and briefing the works supervisor concerned.

(b) Co-ordinating any closures and diversions required including obtaining ATC clearance, if appropriate, before work starts.

(c) Specifying and supplying the leader/follow-me cover to be provided and making arrangements for any RTF or visual communications to be used.

(d) Briefing the supervisor on the permitted working hours and the layout, protection, marking and lighting of the works area by day and night.

(e) Specifying the vehicle and pedestrian access routes to be used.

(f) Specifying and briefing 'look-out' arrangements.

(g) Briefing the conditions and arrangements for withdrawal of the works if applicable.

(h) Inspecting the area when work has been completed and taking the action required to restore normal operations.

5.2 The works operator is responsible for the following:

(a) The attendance of the works supervisor at the ASU to receive the Works Permit and be briefed on the operational safety aspects of the works.

(b) Ensuring that all airside safety and personnel safety rules are complied with.

(c) Ensuring strict compliance with all instructions given in respect of the Works Permit.

(d) Providing all the materials, signs and lighting for the works area. Barriers and lights used for closures on the Manoeuvring Area will be provided by the ASU.

(e) Preventing debris and rubbish being deposited or left on the Movement Area.

(f) Advising the ASU when work is completed, who will then action 5.1.h.

6 TERM CONTRACTORS

Some term contractors such as grass cutters are trained and authorised to operate independently on the Manoeuvring Area with RTF communications. Daily Works Permits are required to ensure proper co-ordination and safeguarding of their activities. Also ATC clearance must be obtained before their operations can start.

7 GENERAL

7.1 There are additional requirements for 'hot works'. These are the subject of a separate Safety Instruction.

7.2 Any questions arising from this Instruction should be addressed to the Airfield Operations Manager, telephone 1234–5678

Annex A to Appendix E – Specimen Works Permit

MANPOOL AIRPORT

WORKS PERMIT

All times local

<table>
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<tr><td colspan="2">Date/Time Effective</td></tr>
<tr><td colspan="2">Date/Time of Expiry</td></tr>
<tr><td colspan="2" rowspan="3">Description of Work and Equipment</td><td>RTF Cover By</td></tr>
<tr><td>Call Sign</td></tr>
<tr><td>Vehicle/Equipment Parking</td></tr>
<tr><td colspan="3">Poor Visibility Restrictions *None/No Work when RVR below _ _ _ _ Metres</td></tr>
<tr><td colspan="3">On completion of work check whether ASU require to check the area</td></tr>
<tr><td colspan="2">Safety Instructions</td><td>Operations Ext
ASU Ext</td></tr>
<tr><td>Authorised By</td><td colspan="2">Confirmation ATC Supv.</td></tr>
</table>

** Delete as applicable before issuing to Contractor or Dept.*

Appendix F – Hot Works in External Airside Areas – Model Safety Instruction

MANPOOL AIRPORT

SAFETY INSTRUCTION 2/9–

HOT WORKS IN EXTERNAL AIRSIDE AREAS

THIS INSTRUCTION DOES NOT COVER ANY HOT WORK WITHIN 15.25 METRES (50 FEET) OF ANY AIRCRAFT OR FUEL STORE FOR WHICH SPECIAL PRIOR AUTHORISATION MUST BE OBTAINED

1 INTRODUCTION

1.1 Hot Work is defined as any process involving the use of an exposed flame or intense heat source such as welding, flame metal cutting, tar boiling, blow lamp work, etc.

1.2 On occasions Manpool Airport staff, airline staff, independent airside organisations: or their agents or contractors may need to organise, or carry out, hot work in airside areas. This Instruction sets out the procedure to be followed, which is in addition to the requirements of the current Safety Instruction for Works on the Movement Area (as detailed at Appendix D to this Part).

1.3 For the purposes of this instruction Airside Areas are defined as any external area including the following:

(a) Any part of the Manoeuvring Area including runways, taxiways and grass areas.

(b) Any aircraft parking area or apron taxi-lane.

(c) All airside roads.

(d) Any aircraft or associated equipment.

(e) The airside exterior of buildings including roofs and under piers.

(f) The interior and exterior of any airbridge as far as, but not including, the gate-room.

(g) Any equipment area or stillage area and the equipment therein.

(h) Any other airside area, location or site designated by Manpool Airfield Operations.

1.4 No naked flame is to be exposed within 15.25 metres (50 feet) of any part of an aircraft or fuel store.

2 PROCEDURES

2.1 The sponsor of the Hot Work must apply for a Hot Works Permit twenty four hours in advance of the work starting. The Permit should be requested by telephone or fax from the Airfield Safety Unit:- Telephone 1234–5678, Fax 1234–9876.

2.2 The Airfield Safety Unit will arrange the necessary safety co-ordination and closures to permit the work to proceed.

2.3 The completed Permit must be collected from the Airfield Safety Unit (specify location) immediately before the work starts.

2.4 The Permit will stipulate the fire precautions and safety precautions necessary. The Airfield Safety Unit will advise the Aerodrome Fire Service and if necessary the fuel companies.

2.5 A copy of the Permit must be in the possession of the operator of the 'flame emitter' before the work may start.

2.6 The Permit must be available for inspection at all times during the period of work.

2.7 The Permit authorises works only as specified and in the location stipulated.

2.8 The Permit is valid for one day only; a new Permit must be obtained for each day of work.

2.9 Hot Works Permits are coloured pink. Please see the example Permit at Annex A.

3 EXCEPTIONS

3.1 Any organisation involved in long term or regular hot work may apply to the Airfield Operations Manager for an exemption from these regulations. If approved, exemption conditions will be issued in writing and a period of validity stated.

3.2 When emergency hot work is required and the specified notification period cannot be met, application should be made to the Airfield Safety Unit as soon as the need for the work becomes known. In these cases a Hot Work Permit will be issued as soon as the necessary safeguarding arrangements can be made.

4 SAFETY EQUIPMENT

4.1 The minimum scales of safety equipment necessary for hot work are as follows:

4.1.1 **Tar Boilers**

1 x 25lb dry powder extinguisher
1 x 10lb CO_2 extinguisher

4.1.2 **Welding, Cutting and Blow Lamp Work**

1 x 2 gal water gas extinguisher
1 x 10lb CO_2 extinguisher
1 Fire Blanket
1 Set of Welding Screens

4.2 Extinguishers and equipment must be supplied by the organisation undertaking the hot work. Apron emergency equipment belonging to Manpool Airport or the aircraft operators is not to be used to provide the stipulated cover for hot work.

4.3 The appropriate scale of safety equipment is to be in position beside the working area before hot work commences.

> Note to this Model:
>
> The scales and types of safety equipment listed above are notional and will be subject to the fire safety needs as defined at an individual aerodrome.

5 WORK FORCE

5.1 Hot work must be carried out with a minimum work force of two persons who are competent in the operation of the safety devices.

5.2 Hot work operators are to acquaint themselves with the location of the fire alarm and telephone nearest to their working area. The Airfield Safety Unit will also provide a briefing when the Permit is issued.

5.4 On completion of each day's hot work the operator is to notify the Airfield Safety Unit.

6 GENERAL

Any questions arising from this instruction should be addressed to the Manpool Airfield Operations Manager – telephone 1234–5678

Annex A to Appendix F – Specimen Hot Work Permit

MANPOOL AIRPORT

HOT WORK PERMIT

<table>
<tr><td>APRONS</td><td>MANOEUVRING AREA</td><td>AIRSIDE ROAD</td></tr>
<tr><td colspan="2">ISSUED BY THE AIRFIELD SAFETY UNIT

TO: CONTRACTOR/DEPT</td><td>DATE/TIME
START

DATE/TIME
EXPIRY</td></tr>
<tr><td>DESCRIPTION OF WORK</td><td colspan="2">LOCATION

VEHICLE/EQUIPMENT PARKING</td></tr>
<tr><td>ACCESS ROUTE</td><td colspan="2">LOOK OUT/LEADER/FOLLOW-ME
IN ATTENDANCE YES/NO</td></tr>
<tr><td colspan="3">SAFETY INSTRUCTIONS/REMARKS

1. MINIMUM WORK FORCE OF TWO PERSONS
2. OPERATORS ARE TO BE AWARE OF NEAREST PHONE ALARM POINT AND PHONE. IN CASE OF FIRE – DIAL EXT 222
3. NO NAKED FLAME TO BE EXPOSED WITHIN 15.25 METRES (50 FT) OF AN AIRCRAFT OR FUEL STORE</td></tr>
<tr><td colspan="2">WELDING AND BLOW LAMP WORK

A. 1 X 2 GALLON WATER GAS EXTINGUISHER
B. 1 X 10LB CO_2 FIRE EXTINGUISHER
C. 1 FIRE BLANKET
D. WELDING SCREENS</td><td>TAR BOILERS

A. 1 X 25LB DRY POWDER FIRE EXTINGUISHER
B. 1 X 10LB CO_2 EXTINGUISHER</td></tr>
<tr><td colspan="2">AUTHORISED BY _ _ _ _ _ _ _ _ _ _ _</td><td>ADVISE AIRFIELD SAFETY UNIT
WHEN WORK IS COMPLETED –
EXT</td></tr>
</table>

Part 4 Airside Vehicle Operation and Driving

CONTENTS

1 INTRODUCTION TO PART 4

1.1 This Part gives guidance and recommends standards to be set by airport authorities, aerodrome operators and airside contractors and operators for drivers and vehicles operating airside. It includes material on driver qualification and testing and on vehicle standards. It represents a Code of Practice for airside vehicle operation based on procedures evolved and found satisfactory over many years at major airports.

1.2 Driving on the airside of an airport in close proximity to aircraft and within the areas of intense activity which they generate, usually in a restricted space, requires knowledge of the rules and standards of conduct in areas primarily laid out for aircraft, not vehicle, operation.

1.3 The objective of these guidance notes is to minimise the risk of accidents and injury to persons, and damage to aircraft and property, arising from the use of vehicles airside. They are intended to assist airport authorities in establishing a regime where staff who are required to operate vehicles and equipment on the airside are properly trained to do so in a safe manner with the full knowledge of the relevant rules and instructions and an awareness of the consequences of contravening them.

1.4 It is recognised that every airport authority will need to consider carefully the degree of applicability of the material in this Part to its own operations. It is also recognised that authorities may need to apply control measures additional to those described. With this in mind a number of model Airport Operational Instructions and forms have been included as appendices to this Part. They are intended to illustrate practical methods of implementation of some of the requirements and the way in which information can be passed to Company Operators. These Appendices deal specifically with:

Appendix A Airside Driving Permits

Appendix B Airside Vehicle Permits

Appendix C Vehicle Inspection Requirements

Appendix D Accident Reporting Procedures

Appendix E Operation of vehicles on the Airside – General

The use of such orders enables the airport authority to inform its own staff and all Company Operators of the primary requirements, while directing attention to more detailed action which will be taken by the appropriate parts of its own organisation, for example in training.

2 KEY ELEMENTS IN THE REGIME

There are four key elements in the regime referred to in para 1.3. These are as follows:

2.1 Rules and Procedures

Overall responsibility for the safety of airside operations lies with the airport authority, which is required to comply with the provisions of Civil Air Publication (CAP) 168, Licensing of Aerodromes, and of the relevant Health and Safety legislation. The airport authority will need to publish comprehensive rules governing the driving of vehicles and mobile equipment on the airside. Employers and employees are in turn responsible for compliance with the rules set out by the airport authority and with any legislation directly related to their specific activities.

2.2 Training and Testing

The airport authority will need to ensure that a system is established for the training and qualification of all staff who are required to drive and operate equipment, including initial and refresher training and testing, and for the testing and approval of vehicles. It is likely that at most major airports the airport authority will delegate some training and testing functions to company operators. It is important that such delegation is carried out within the terms of the Safety Management System evolved by the airport authority in accordance with Part 2 of this publication.

2.3 Monitoring of Standards

There will need to be a system for monitoring the standards of airside operations. The safety of airside vehicle operation will depend substantially on the proper flow of information between the airport authority and the operators of vehicles. The rules set out by the airport authority must be unambiguous and the channels of communication adequate. Company operators must provide all the information needed by the airport authority to ensure the maintenance of proper standards among personnel and in equipment.

2.4 Airside Performance Management

There will need to be a system for ensuring that compliance is achieved. Details of the system must be available to all companies and individuals who are engaged in airside operations. See Part 7 – Performance Management.

3 AIRSIDE DRIVING – RULES AND PROCEDURES

The airport authority is responsible for the establishment of airside vehicle rules and procedures and for the dissemination of information to company operators. A single overall guidance document should be produced which refers as necessary to other more detailed sources of information. This main information document should include material on the subject described in the following paragraphs.

3.1 The Legal Framework

The legal framework within which airports operate is covered in such documents as the Air Navigation Order, CAP 168, the Airport Byelaws, Health and Safety at Work legislation etc. *This topic is fully developed in the Introduction to this publication.*

3.2 Drivers – Basic Qualifications and Medical Requirements

3.2.1 All applicants for Airside Driving Permits should hold a Driving Licence valid for the relevant vehicles or, as an alternative, in the case of HGV or unconventional vehicles, a Certificate of Competence issued by the vehicle operator.

3.2.2 Employers of airside drivers should consider the medical employment standard relevant to their aerodrome and set down a basic minimum standard considering the following:

(a) General health for the role.

(b) Vision and colour perception.

(c) History of debilitating illness or disease.

(d) Hearing acuity.

3.3 Airside Driving and Vehicle Permits

3.3.1 The airport authority should establish a system for the issue of Airside Driving Permits (ADPs) and Airside Vehicle Permits (AVPs) which recognises the need for proof of initial and continuing competence of personnel and of adequate vehicle standards. It should also take account of the requirements of identification and security. The issue of permits should be strictly controlled and recorded. Only the minimum number of vehicles necessary for the safe and efficient use of the airport should be permitted airside. The issue of an Airside Permit should be an acknowledgement by the airport authority that a particular vehicle or driver needs to operate on the airside of the airport. Acceptance of a permit should be regarded as acceptance by the applicant of the conditions of use laid down by the airport authority. It should be made clear the permits do *not* confer any general right of entry on a driver or vehicle.

3.3.2 Airside permits should be issued with particular periods of validity. These may be long periods, such as a year, or shorter periods when a specific need arises. Permits should contain clear information about the particular area for which they are valid. This is particularly important in the case of short term permits. These should normally be limited to specific entry point and area.

3.3.3 Permits should be issued subject to a declaration by the applicant that all details provided are accurate and in order.

3.3.4 Permits should be issued only for specified drivers and vehicles. They should never be transferable between company operators, vehicles or drivers.

3.3.5 The airport authority should set out the circumstances in which a permit will cease to be valid and must be surrendered for cancellation. Such circumstances may include:

(a) Cessation of the purpose for which the permit was issued.

(b) Change of vehicle ownership.

(c) Disposal of a vehicle.

(d) Change of the holder's employment.

(e) Loss of driving licence for offences under the Road Traffic Acts.

(f) Any defacing, alteration, or misuse of a permit.

(g) Proof of disregard of Airport Traffic Rules.

(h) Any use of a permit in relation to a customs or immigration offence.

3.3.6 *Please see Airside Driving Permits – Model Instruction – Appendix A*

3.3.7 *Please see Airside Vehicle Permits – Model Instruction – Appendix B*

3.4 Airside Driving – Training Requirements

Every airport authority should establish a training and qualification programme for all applicants for ADPs. The length and complexity of the programme will depend on the size of the airport and the level of traffic. *Airside Driving Training Requirements are fully described in Part 6 of this publication.*

3.5 Airside Vehicles – Standards and Insurance

3.5.1 Every vehicle operating Airside should have an individual Airside Vehicle Permit. This must be displayed on the vehicle at all times when it is operating Airside.

3.5.2 All such vehicles should be inspected by a competent person before initial issue of the Permit and periodically thereafter to ensure that they are fully fit for the intended use and that their condition is such that they will not endanger vehicle users, other vehicles, pedestrians, aircraft or property.

3.5.3 The airport authority should establish requirements for vehicle inspection and certification which will ensure that the objective at para 3.5.2 is achieved.

3.5.4 All vehicles should be required to meet the requirements appropriate for the grant of a Department of Transport Test Certificate. In some exceptional circumstances this requirement could be waived, for example in respect of lights at an airport where operations at night or in conditions of poor visibility do not take place.

3.5.5 The AVP displayed on a vehicle must include a clear identification and details of any limitations imposed. Additionally, vehicles should be readily identifiable by their livery or by the prominent display of the vehicle operator's name.

3.5.6 The airport authority should specify the maximum height, width and breadth of vehicles for airside operations. height is particularly significant where airside bridges exist, and should be displayed in the driver's cab. It may be necessary to specify minimum manoeuvrability standards.

3.5.7 Because of the serious nature of damage to aircraft and powerplants caused by foreign objects it is essential that all practical steps are taken to minimise the risk of such damage from vehicle operation. The airport operator must ensure that all vehicle operators are aware of the need for strict control of the security of loads and vehicle equipment. This is particularly important in respect of items such as fuel tank caps and hub caps, the loss of which is not particularly significant during normal road operations.

3.5.8 Vehicles holding AVPs should normally be equipped with flashing yellow obstruction lights visible through 360°. The intensity must be between 40 and 400 candela and the beam spread 360° horizontally and ±10° vertically, with a flash rate of between 60 and 90 per minute.

3.5.9 AVPs should be granted only to vehicles which are properly insured. The airport authority should publish vehicle insurance requirements appropriate to the needs of the particular airport. The following conditions should be considered as suitable for general application:

(a) The airport authority should normally require permits holders (i.e. their employing company) to carry adequate insurance to cover all actions, claims, costs and demands in respect of any loss, damage, or injury to property or persons (including fatal injuries) which may be made against them or their servants, agents or contractors in connection with the use of vehicles on the airside.

(b) The policy or policies of insurance must remain in full force and effect during the period of validity of the Airside Vehicle Permit. The sum insured must be adequate to cover any potential liability in respect of the actions at sub-para (a) above.

(c) The airport authority should require the submission of documentary evidence of insurance, including the original policy document.

(d) In the case of contractors working on behalf of the airport authority it may be necessary for special arrangements to be made whereby the authority takes partial responsibility for insurance.

3.5.10 *Please see Airside Vehicle Inspection Requirements – Model Proformae, Appendix C.*

AIRSIDE VEHICLE PERMITS SHOULD NOT BE ISSUED TO ANY VEHICLE WHICH CANNOT MEET THE SPECIFIED STANDARDS

3.6 Airside Vehicle and Driver Identification

3.6.1 In the interests of security it is *essential* that all drivers and vehicles can be identified quickly and positively. Airport Driving Permits should carry a photograph of the holder. The airport authority should issue instructions specifying the circumstances under which the permit must be produced on demand, and to whom. All vehicles must display permits as required by the airport authority.

3.6.2 To facilitate vehicle identification further, all vehicles operating on the airside should be clearly marked with the operator's livery or name.

3.7 Vehicle Operating Rules

3.7.1 The following paragraphs set out definitions and operating rules which have proved to be satisfactory over many years of operation at airports in the United Kingdom. While local operating conditions will determine exact procedures at individual airports it is recommended that this material is taken as providing a Code of Practice for airside rules at all airports.

3.7.2 *Definitions*

(a) The term 'Airside Area' may be regarded as having broadly the same meaning as the term 'Movement Area'. This is defined in CAP 168 as:

That part of an aerodrome intended for the surface movement of aircraft including the manoeuvring area, aprons, and any part of the airport provided for the maintenance of aircraft.

(b) CAP 168 also defines the Manoeuvring Area and Apron, which both form part of the Movement Area. The definitions are:

The Manoeuvring Area: That part of an aerodrome provided for the takeoff and landing of aircraft and for the movement of aircraft on the surface, excluding the apron and any part of the aerodrome provided for the maintenance of aircraft.

The Apron: A defined area on a land aerodrome provided for the stationing of aircraft for the embarkation and disembarkation of passengers, the loading and unloading of cargo, and for parking.

(c) It will be seen that the Manoeuvring Area and Aprons together comprise the Movement Area and that this equates generally with the Airside Area. However, other areas such as Airside Service Roads may need to be included in Airside Areas as determined by Airport Authorities.

3.7.3 To distinguish between ground surface markings used by aircraft and those applicable to the movement and control of vehicles and equipment the following colours should be used:

YELLOW: Markings for the guidance of aircraft

WHITE: Markings for the guidance of vehicles and equipment.

The boundary between the apron and the manoeuvring area should be indicated by a continuous double white line. Entry into and movement between these areas should be strictly controlled. Apart from pushback vehicles and crews, no vehicle should enter the manoeuvring area other than at a designated vehicle crossing except vehicles in radio contact with Air Traffic Control.

No markings of any sort should be permitted in the airside area without the express permission and approval of the airport authority.

3.8 **Traffic Rules**

3.8.1 *General*

(a) The airport authority should determine speed limits applicable to the Airside Area. Normally 20 mph should be sufficient, although a different limit may be applied to sections of roadway where conditions permit. This information should be published and signs displayed as appropriate.

(b) Vehicles should always keep to the left when passing an approaching vehicle, particularly to avoid confusion where there are no road markings.

(c) No vehicle should be left unattended anywhere on the airside area with its engine running, because of the real risk of overheating and consequent fire risk in the vicinity of aircraft and fuel.

(d) Vehicles should remain in the airside area only long enough to conduct their legitimate business.

(e) Vehicles must have all doors and shutters closed while moving in the airside area, to ensure that no object is dropped on the apron or manoeuvring area. All loads and equipment and all parts of the vehicle must be properly secured before a vehicle enters the area. **Objects dropped in the movement area can cause serious hazards to aircraft and personnel.**

(f) Obstruction lights meeting the requirements of CAP 168 must be displayed at all times by vehicles operating on the manoeuvring area. Dipped headlights should always be used in conditions of darkness and reduced visibility.

(g) All parking restrictions must be strictly observed.

3.8.2 *In relation to aircraft and stands*

(a) Vehicles must not be driven across aircraft stands, unless they are directly involved in the operation of the aircraft using or about to use the stand.

(b) Vehicles must give way to aircraft at all times.

(c) Vehicle drivers must at all times when aircraft engines are running ensure that they stay well clear of areas behind the aircraft where slipstream and jet efflux may cause damage or danger to the vehicle or its occupants.

(d) Vehicles must not be driven in reverse on the manoeuvring area or apron unless directly engaged in aircraft manoeuvring or servicing. When reverse movement is essential, guidance should be provided to the driver by a person outside the vehicle. The fitting of reversing alarms should be encouraged.

3.9 Control

3.9.1 Control of vehicles on the manoeuvring area is normally the responsibility of Air Traffic Control. On apron areas, control of taxying aircraft and aircraft under tow is the responsibility of Air Traffic Control but the control of vehicles may be under special instructions issued by the airport authority.

3.9.2 Control posts should be established at all entry points to the airside area. These may be staffed or may be controlled by traffic lights or light signals. Where local conditions permit, some entry points and taxyway crossing points may be designated for use without prior clearance by particular classes of vehicle holding AVPs.

3.9.3 In all cases, signs displayed at airside area entry points, and at crossing points within the area, must give adequate information to drivers about the procedure to be followed for movement into and within the airside area. Signs should describe any relevant control

methods, such as traffic lights or signal lamps. Uncontrolled crossings should be clearly marked as such, and the conditions of use displayed. **Particular attention should be given to the need for the clear statement of prohibition of entry to airside areas by unauthorised pedestrians.**

3.9.4 The airport authority should issue specific instructions about the classes of vehicle permitted to cross active runways. The conditions for crossing active runways must be clearly set out in a document published by the airport authority and signed by the relevant vehicle operators and drivers.

3.10 Operations at Night and in Poor Visibility

3.10.1 Every airport authority should promulgate instructions dealing with vehicle operation at night and in conditions of poor visibility.

3.10.2 Instructions for operations at night should include descriptions of the airport lighting and the lighting required on vehicles.

3.10.3 All vehicles operating at night should be required to display obstruction lights as specified at para 3.5.8. In addition to normal lighting, vehicles over 12.3m (40ft) in length should be required to display two obstruction lights.

3.10.4 All trailers operating at night should be required to display two red rear lights. Trailers over 2.46m (8ft) in length should be required to have side red or amber reflectors at or near each end.

3.10.5 Special facilities for the use of aircraft in conditions of reduced visibility are provided in accordance with the requirements of the UK AIP and CAP 168. Airport authorities must ensure that all drivers are aware of the meaning of facilities such as Runway Guard Lights where these are provided, and of the significance of ILS Protection Areas. Entry into the manoeuvring area by holders of short term permits in conditions of reduced visibility should be permitted only in exceptional circumstances.

3.10.6 As a general rule, whenever Low-Visibility Procedures are put into effect the airport authority should introduce the following procedures for vehicle control:

(a) Check that all entry points into the movement area are either brought under positive control or closed.

(b) Check that any guard lights or holding point board lights required under operational procedures are switched on.

(c) Warn or remove all working parties operating vehicles as necessary.

(d) Ensure that all crossings are under positive control.

It is important that communication of the introduction and cancellation of low visibility procedures is fast and effective.

3.11 Radio-Telephony Equipment

3.11.1 Vehicles operating on the airside may be equipped with either transmitter receiver or receiver only.

3.11.2 Drivers of vehicles requiring to cross or enter active runways and taxyways (except at designated uncontrolled taxyway crossing points) must invariably be in two-way communication with Air Traffic Control and must comply with any clearance issued to them.

3.11.3 With regard to other vehicles, the airport authority should decide the basis on which R/T equipment is provided and used. In some cases a listening watch may be required of vehicles on certain parts of the movement area. In other cases vehicles may be required only to carry R/T equipment to satisfy the need of the Company Operator.

3.11.4 It is the responsibility of the holder of a vehicle radio (Special Mobile) station licence to ensure that anyone using the station has been trained and is competent to do so. Any users who are to communicate with Air Traffic Control or to transmit on any frequency used by aircraft must be tested under arrangements agreed between the airport authority and the agency providing the Air Traffic Control service at the airport. Communications between vehicles and Air Traffic Control demand the same standard of efficiency as aircraft communications. *Further details of training are contained in Part 6 of this publication.*

3.11.5 In the interests of safety it is essential that Air Traffic Control is made aware of all radio facilities being used at the Airport, whether or not these facilities are used for communication with Air Traffic Control.

3.12 Vehicle Accident Reporting Procedures

3.12.1 Every airport authority should publish rules for the reporting of accidents involving vehicles operating on the airside.

3.12.2 Under the provisions of the Civil Aviation (Investigation of Accidents) Regulations, aircraft operators have certain responsibilities for the reporting of accidents involving major damage to aircraft, but these apply only if the accident occurs between embarkation and disembarkation.

3.12.3 Under the provisions of the Civil Aviation Authority's Mandatory Occurrence Reporting Scheme airport licensees and managers, and certain other classes of persons, are required to report occurrences and defects which could endanger aircraft or their occupants.

3.12.4 There is therefore a requirement under aviation law for the reporting of accidents and incidents where vehicles damage or otherwise cause danger to aircraft. However, the legal requirements are not entirely comprehensive, and they are concerned only with the furnishing of reports to the Chief Inspector of Accidents at the Department of Transport Air Accidents Investigation Branch and the Civil Aviation Authority. Because the legal requirements are not comprehensive (i.e. do not cover all vehicle events) it is essential that every airport authority provides its own scheme for the reporting of airside vehicle accidents. The scheme should cover the reporting of accidents between vehicles, vehicles and aircraft, vehicles and equipment or buildings, and vehicles and pedestrians. Records of accidents should be kept for at least three years. They should be reviewed regularly to establish whether any steps can be taken to eliminate the causes of accidents in the airside area.

3.12.5 If a person has been injured, it may be necessary for the injury to be reported to the relevant health and safety enforcing authority. At most airports this will be the local office of the Health and Safety Executive, although at some airports, it may be the Environmental Health Office of the local Authority or Council. If the employee has suffered a major injury, the accident should be reported without delay, by telephone.

3.12.6 *Please see Accident Reporting Procedures – Model Instruction – Appendix D*

4 TRAINING

All Airside Training considerations are discussed fully in Part 6 of this publication.

5 THE MONITORING OF STANDARDS

5.1 Every airport authority should establish procedures for the monitoring and assessment of airside vehicle operating standards.

5.2 These procedures should include a review of:

(a) Any increase/decrease in the number of valid Airside Permits.

(b) Any reports of defective operation received from aircraft operators or from Air Traffic Control.

(c) The number of accidents and incidents.

(d) The functioning of training schemes.

(e) The functioning of communication and delegation.

(f) Security.

(g) Any other matters contributing to the promotion of airside safety.

6 PERFORMANCE MANAGEMENT

6.1 The airport authority should publish any penalties it has established for non-compliance with the rules and instructions for the use of vehicles on the airside. These may include temporary or permanent exclusion from the airside area of individuals, particular vehicles, or group of vehicle controlled by a specified vehicle operator.

6.2 In the interests of natural justice it will be important for any penalty system to include an appeal procedure. However, this should not prejudice the immediate exclusion of a particular individual or vehicle where in the opinion of the airport authority this is necessary in the interests of safety.

6.3 *This subject is dealt with in more detail in Part 7 of this publication.*

7 OPERATION OF VEHICLES ON THE AIRSIDE

Please see Operation of Vehicles on the Airside – Model Instruction – Appendix E. Like all the Appendices, it is written for the larger airport. However, all aerodrome licensees should consider the contents of the Appendices and may use them all or in part if they so wish.

Appendix A – Airside Driving Permits

MANPOOL AIRPORT

MODEL INSTRUCTION NO. 1/9–
AIRSIDE DRIVING PERMITS

1 INTRODUCTION

The Airside Driving Permit is evidence that the holder has undergone a formal course of instruction in driving on the airside and demonstrated his competence in a test at the end of the course. It is not a Driving Licence, and the holder must also have a current UK Driving Licence or a foreign equivalent valid in the UK plus specialist qualifications such as HGV, PSV Licences, as appropriate.

2 THE PERMIT

2.1 The permit allows the holder to drive vehicles or operate mobile equipment airside at Manpool Airport subject to compliance with the terms and conditions of the Airside Regulations. There are two classes of Permit. The All-Areas Permit, and the Aprons Permit.

2.2 The Permit remains the property of Manpool Airport and must be returned:

(a) On demand by Manpool Airport.

(b) When the holder ceases to be employed at the airport.

(c) When the holder loses his Driving Licence.

(d) On demand as a penalty for a driving offence.

3 VALIDITY

The Permit is valid for 2 years from the date of issue. Before it can be renewed, the holder must undergo a short refresher training course and pass a test.

4 TRAINING AND TESTING

4.1 Manpool Airport Operations Department provides training courses and tests for the award of Permits. Courses start on the first and third Monday of every month. The course for the Apron Permit (which includes service roads) lasts two days. The course for the All-Areas Permit lasts three days. The refresher course for both Permits lasts one day.

4.2 Applications for places on training courses should be made either to the Airfield Operations Manager, or to the Driver Training Officer of one of the following organisations which are approved to train drivers and issue Permits on behalf of Manpool Airport:

(a) Big Airways Limited.

(b) Middle Airways Limited.

(c) Little Airways Limited.

Appendix B – Airside Vehicle Permits

MANPOOL AIRPORT

MODEL INSTRUCTION NO. 2/9–
AIRSIDE VEHICLE PERMITS

Note: Compliance with the Terms of Operational Instructions is a Condition of Use of Manpool Airport. Employers are responsible for ensuring that their staff are familiar with relevant Instructions.

1 INTRODUCTION

1.1 This Instruction describes the procedure for the issue of Vehicle Airside Permits valid from 1 April 199-. Permits are only issued to vehicles for which there is a proven need and there is no automatic renewal. An application must be made for each vehicle and the sponsor must certify on the application form that there is a valid need for the vehicle on the airside at Manpool Airport.

1.2 The permit must be displayed where it is easily visible on the front left of the vehicle, normally on the windscreen if fitted. It will be checked at the Control Post on entry to the airside. No vehicle will be permitted to airside without a permit unless it is in an exempt category, listed below, and vehicles with defaced or damaged permits will be refused entrance.

2 VALIDITY

2.1 Permits are valid from 1 April 199- to 31 March 199- or an earlier date specified on the permit.

2.2 The Permit serves only to identify the vehicle, it does not confer right of entry to the vehicle or to its occupants.

3 CONDITIONS OF USE

3.1 The Permit must be used only for the vehicle for which it is issued.

3.2 The vehicle must be in recognised company livery or be identified by prominent display of the operator's name. For unliveried vehicles, this means removable transfers or stickers attached to the doors on both sides or displayed in the windows. The signs must be a minimum of 18 x 8ins in size with a company logo or name occupying at least two thirds of the surface.

3.3 The permit must be returned for cancellation in the following circumstances:

(a) Cessation of the purpose for which the permit was issued.

(b) Change of ownership of the vehicle.

(c) When the vehicle is scrapped or is withdrawn permanently from airside use.

(d) On demand by Manpool Airport if the pass is defaced or damaged, the vehicle is misused, or involved in an offence.

3.4 The submission of an application for a permit shall be regarded as acceptance of the conditions attaching to its use.

4 APPLICATIONS

4.1 Applications for permits must be made on the approved form, a copy of which is printed at the end of this Appendix (Annex to Appendix B).

4.2 The application must be signed by a sponsor who has sufficient authority to commit his company to the terms and conditions of issue.

4.3 The application must be accompanied by a form, appropriate to the type of vehicle certifying that the vehicle has been inspected by a competent engineer. Sample forms are shown at Appendix C.

5 INSURANCE

5.1 Applicants must ensure, and sign on the application form to that effect, that the required level of insurance cover for the vehicle has been arranged and will be in force for the duration of the validity of the Permit.

5.2 The insurance must be adequate to cover all actions, claims, costs and demands in respect of any loss, damage or injury to property or persons (including fatal injuries) which may be made against them or their servants, agents or contractors, arising in connection with the use of the vehicle airside at Manpool. The sum insured must be adequate to cover any potential liability in respect of the above actions, claims and costs and must be not less than £40M.

6 EXEMPTIONS

6.1 Vehicles in the following categories do not require permits and will be admitted to the airside, subject to any conditions specified:

(a) Police vehicles attending an emergency.

(b) Specialist military vehicles, escorted by police vehicles, attending an emergency.

(c) Local authority fire appliances attending an emergency.

(d) Local authority ambulances attending an emergency.

(e) Local authority or private ambulances on non-private emergency duties, provided that they have prior approval from the Airport Medical Centre and are escorted by an authorised person.

(f) Goods vehicles making ad hoc delivery or collection of goods and supplies to premises on the airside, provided that they are escorted by an authorised person.

(g) In the Cargo Area only, vehicles carrying abnormal or indivisible loads, subject to current security arrangements, and escorted by an authorised person.

7 ENQUIRIES

Any enquiries about this Instruction should be addressed to the Airport Security Manager on Extension 4321.

ANNEX TO APPENDIX B

Model Application for Vehicle Apron Pass

To: Airfield Operations Manager
xxxxxxxxx Airport xxxxxx
xxxxxxxx xxxxxx
xxxxxxxxxx
Telephone:

To be completed by the Applicant in Block Capitals or Typewritten

1 **Name and private address of registered owner of vehicle**

.....

.....

Tel No. .....

Name and address of applicant if different from registered owner of vehicle

.....

.....

Tel No. .....

2 **Name and address of employer of applicant**

.....

.....

Tel No. .....

Ext. .....

3 **Details of vehicle**

Taxation class	Make	Model	Width (if over 2.5m)	Colour	Registration No.	Company Livery

4 **Detailed reasons for application**

Application for privately owned vehicles will only be authorised in exceptional circumstances.

5 **Name of company or body for whom service is being provided**

To be completed by Sponsor

6 **Sponsorship** *(To be completed by an authorised official of an airline, refuelling company, aircraft handling agent, central or local Government department or Airport on behalf of their contractor or employee).*

I, the undersigned certify that:

(a) The vehicle operated by the applicant is required to enter Apron areas owing to their service to this Company and for the detailed reasons in Part 4 above.

(b) The driver and any other persons carried (except airline passengers) will be in possession of an approved identity document.

(c) I will bring the traffic and vehicle requirements as set out in the Airport Byelaws and Managing Director's Notices as modified from time to time, to the attention of all drivers who may use the vehicles for which this Pass is required.

(d) I will return the Pass if the applicants vehicle ceases to serve this Company/body during the period of issue.

(e) *The applicant/owner/this company has taken out a policy or policies of insurance as set out in para 9 overleaf.

Name of Sponsor: ..... Tel No. ..... Ext .....

Signed on behalf of sponsor:

.....

Position ..... ** delete as appropriate*

For Office Use	Airport Record No.	Pass Serial No.	Date of Issue	Previous Pass No.	Date Collected	Signature of Recipient

Declaration by the Applicant

I, the undersigned, agree that

(1) In view of the nominal sum, if any, charged for the Pass I accept that all vehicles are admitted to and remain on the aprons and service roads on the express condition that neither the Airport nor its servants or agents shall be liable to any loss of, or damage to, the vehicle or its contents, howsoever such loss or damage may be occasioned. The Pass is the property of the Airport and is issued subject to Airport Byelaws and Regulations.

(2) I will ensure that the driver is aware that this Pass applies to the Aprons and Airside roads only and that he should not drive on the manoeuvring area (see note below) except when specifically authorised by Airport and ATC so to do.

(3) I will bring the traffic and vehicle requirements as set out in the Airport Byelaws and Managing Director's Instructions, as modified from time to time, to the attention of all drivers who may use the vehicle for which this Pass is required.

(4) The Pass is valid only when exhibited upon the windscreen of the vehicle for which it is issued and that any defacement or alteration will render it invalid.

(5) The Pass is concerned with access only to airside and does not confer the right to park in airside areas, and that a vehicle reported for parking in airside areas may have its Pass cancelled.

(6) The Pass remains at all times the property of the Airport and will be returned to the Authority issuing office upon request, or if the vehicle is no longer required for the purposes stated in Part 4 overleaf.

(7) The driver and any other persons carried (except airline passengers) will be in possession of an approved identity document.

(8) The vehicle has a valid MOT certificate where applicable under the Road Traffic Act or should the vehicle require no Road Fund Licence because is will not be required to operate on roads where the Road Traffic Act applies, the vehicle has been inspected by a Motor Engineer within the past three calendar months of the date of this application and that the mechanical and electrical condition of the vehicle meets the standards required for the issue of a MOT certificate under the Road Traffic Act. All vehicles should be serviced and maintained to ensure MOT standards are complied with.

(9) Prior to driving a vehicle on airside for which a vehicle apron pass has been issued to me there will have been taken out a policy or policies of insurance covering all actions, claims costs and demands in respect of any loss, damage or injury to property or persons (including fatal injuries) which may be made against us or any of our servants, agents or contractors, howsoever arising in connection with the use of the vehicles airside, which policies of insurance we undertake to maintain in full force and effect during the currency of the said Pass. The sum insured shall be such sum as is adequate to cover our potential liability in respect of the said actions, claims and costs and is in no event to be less than £XXX million.

(10) Any fee charged for the Pass is not returnable upon cancellation of the Pass howsoever arising.

Signed .....

Name (BLOCK LETTERS) .....

Company .....

Position in Company ..... Date .....

NOTE

The Rules of the Air and Air Traffic Control Regulations 1985 (S.I. 1985/1714) shall apply, in particular Rule 32 as set out below:

32 – (1) A person or vehicle shall not go to any part of the aerodrome provided for the use of aircraft and under the control of the person in charge of the aerodrome without the permission of the person in charge of the aerodrome, and except in accordance with any conditions subject to which that permission may have been granted.

(2) A vehicle or person shall not go or move on the manoeuvring area of an aerodrome having an air traffic control unit without the permission of that unit, and except in accordance with any conditions subject to which that permission may have been granted.

(3) Any permission granted for the purpose of this Rule may be granted either in respect of persons or vehicles generally, or in respect of any particular persons or vehicle or any class of person or vehicle.

Appendix C Vehicle Inspection Requirements

MODEL SAFETY INSPECTION
TRAILERS

Owners Name: ..... D/Bar or Semi ..... Fleet No: .....

Engineer's Name: ..... No. of Axles: ..... Identification No: .....

Engineer's Company: ..... Date of this inspection: .....

MARKING CODE	✓= Serviceable	X = Defect present	N/A = Not applicable

ALL ITEMS ARE TO BE CHECKED IN ACCORDANCE WITH THE DTp GOODS VEHICLE TESTERS MANUAL

UNDER/ALONGSIDE TRAILER – CHECK	CODE	STEERING CHECK	CODE
Road wheels & hubs – *condition – security*		Stub axles & wheel bearings – *play – condition*	
Tyres – *size & type*		Steering linkage – *play – condition – security*	
Tyres – *condition – wear – inflation*		Turntable – *condition – operation*	
Bumper & protective guards – *condition – security*		BRAKES – CHECK	CODE
Spare Wheel carrier – *security – condition*		Mechanical brake components – *condition – operation*	
Fifth wheel king pin & rubbing plate – *condition – security*		Drums & linings – *condition*	
Auto-coupling forecarriage – *operation – wear*		Brake actuators – *security – leaks – condition*	
Drawbar incl. attachment – *condition – security*		Brake systems & components inc:	
Landing legs – *security – condition – operation*		Pipes/valves – *leaks – condition – security*	
Wings – condition – *security*		Load sensing device(s) – *operation*	
Body – *security*		or anti-lock systems – *condition*	
Body – *condition*		Parking brake – *operation – condition*	
Chassis – *condition – security of components*		MARKINGS/REFLECTORS – CHECK	CODE
Electrical wiring & equipment – *condition – security*		Rear markings – *condition – security*	
Oil leaks (components & ancillaries)		Reflectors (side & rear)	
Suspension pins & bushes – *condition*		ANCILLARY EQUIPMENT	CODE
Suspension units – *condition – leaks*			
Spring units, links & sub frames – *attachment*		Note: Brake and electrical system checks require suitable power sources, e.g. a tractive unit or 'slave' equipment	
Shock absorbers – *condition – security – operation*			

SAFETY INSPECTION – TRAILERS (PAGE 2)

DETAILS OF FAULTS NEEDING RECTIFICATION	ACTION TAKEN TO RECTIFY FAULTS	DONE BY
Signature of engineer:	Signature of maintenance superintendent:	Date completed 19
Print name	Print name	

MODEL SAFETY INSPECTION
GROUND POWER UNIT/AIRSTART UNIT

Owners Name: ..... Fleet No: .....

Engineer's Name: ..... Registration No: .....

Engineer's Company: ..... Mls/Kms:: .....

Seating Capacity ..... Inspection Date: .....

MARKING CODE	✓= Serviceable	X = Defect present	N/A = Not applicable

	STEERING	CODE		EXHAUST AND FUEL	CODE
1	Security of wheel system for free play		14	Security of pipes, silencer & freedom from leaks	
2	Security & condition of steering arms, ball joints, track rod & drag link ends		15	Operation/condition carburettor/diesel injectors & pump	
3	Wheel bearings		16	Tank, pipes & hoses for security & leaks	
	BRAKES	**CODE**		**ENGINE, CLUTCH, GEARBOX POWER TAKE OFF**	**CODE**
4	Hand brake lever, reserve travel, ear in pivot		17	Condition & security of mountings	
5	Operation of pawl & ratchet		18	Water pump for leaks/bearing wear	
6	Condition & security of linkage, clevis pins & cables		19	Freedom from oil & fuel leaks	
7	Security & condition of hoses, feed pipes, connections		20	Condition of linkages, couplings & drive shaft bolts	
8	Operation of brake shoes, adjusters and expanders			**BODY**	**CODE**
9	Linings & brakes adjustment		21	Operation of doors, hinges & locking devices, body to chassis mountings	
	SUSPENSION	**CODE**	22	Condition & security of wings & bumpers	
10	Springs for cracks, work leaves, loose spring clips			**WHEELS, TYRES**	**CODE**
11	Security & condition of holding down bolts, brackets & shock absorbers		23	Wheel disc for fracture/damage, flanges for correct bedding & fitting	
12	Wear in shackle pins & brushes, linkage ball joints, etc.		24	Wheel studs & nuts for security, axle shaft bolts	
	CHASSIS	**CODE**	25	Tyres for pressure, condition of tread pattern, mating & damage	
13	Freedom from cracks & damage				

GROUND POWER UNIT/AIRSTART UNIT (PAGE 2)

	ELECTRICAL	CODE		ROAD/ROLLER TEST	CODE
26	Fan belts, condition, tension		31	Oil pressure, water temperature & driving controls	
27	Security & condition of battery, starter & generator		32	Operation of speedometer/tachograph	
28	Security of wiring & soundness of insulation		33	Excessive smoke	
29	Condition & security of reflectors		34	Check steering & brake system	
	TRAILER CONNECTIONS	CODE			
30	Trailer tow & brake couplings for security & condition				
Signature of engineer:			Signature of owner's representative:		
Print Name:			Print Name:		Date:

MODEL SAFETY INSPECTION
POWERED VEHICLES
OVER 3.5 TONNES GROSS VEHICLE WEIGHT

Owners Name: ..... Artic/Rigid: ..... Fleet No: .....

Engineer's Name: ..... No. of Axles: ..... Reg. No: .....

Engineer's Company: ..... Odometer reading: ..... Date of this inspection: .....

MARKING CODE	✓= Serviceable	X = Defect present	N/A = Not applicable

INSIDE CAB – CHECK	CODE
Cab floor & steps – *condition – security*	
Driving seat – *condition – security*	
Mirrors – *position & surface condition*	
View to front – *obstruction*	
Condition of glass – *(screen & windows)*	
Windscreen wipers & washers – *operation – condition*	
Speedometer – *condition – illumination*	
Audible warning (horn) – *operation – security*	
Driving controls – *function – condition – obstruction*	
Steering wheel – *free play*	
Steering wheel – *security – condition*	
Steering column – *security – condition*	
Pressure/Vacuum build up – *time*	
Hand levers controlling – *operation – wear* Mechanical braking – *condition – travel*	
Service brake-pedal – *condition – operation*	
Service brake – *operation – leaks*	
Hand operated brake – *operation – security* Control valves – *condition – leaks*	
Electrical wiring & equipment – *condition – security* Inc. switches & batteries – *operation*	
CAB EXTERIOR – CHECK	**CODE**
Bumper (front) – *condition – security*	
Wings (front) – *condition – security*	
Cab security – *condition*	
Cab doors inc. hinges and locks – *condition*	
Cab floor (underside) & steps – *condition*	
Mirrors – security of glass & brackets – *condition*	
Front lamps (side) – function – *condition*	
Headlamps – function – vertical aim – *condition*	

UNDER/ALONGSIDE VEHICLE – CHECK	CODE
Road wheels & hubs – *condition – security*	
Tyres – *size – type*	
Tyres – *condition – wear – inflation*	
Bumper & protective guards – *condition – security*	
Trailer coupling – *security – operation – wear*	
Wings (rear) – *condition – security*	
Body – *security – condition*	
Chassis – *condition – security of components*	
Electrical wiring & equipment – *condition – security*	
Oil leaks – *extent and effect*	
Fuel tank & system – *security – condition*	
Exhaust system – *condition – security – leaks*	
Suspension pins & bushes – *wear – security*	
Spring units, links, sub-frames – *attachment*	
Shock absorbers – *operation – condition – security*	
Stub axles & wheel bearings – *condition – play*	
Steering linkage – *movement – condition – security*	
Steering gear – *operation – wear – security*	
Power steering – *operation – security – leaks*	
Transmission – *condition – wear – security*	
Rear marking – *position – condition*	
Rear lamp/Fog lamps – warn. dev. – *operation*	
Reflectors (side & rear) – *condition*	
Direction indicators – position – function	
Stop lamps – *position – function*	
Rotating beacon – *operation*	

SAFETY INSPECTION – POWERED VEHICLES (PAGE 2)

ENGINE COMPARTMENT – CHECK	CODE	BRAKE – CHECK	CODE
Engine mountings – *condition – security*		Mechanical break components – *condition – operation*	
Oil leaks – *extent & effect*		Drum & linings – *condition*	
Fuel tanks & systems – *condition – leaks*		Brake actuators – *security – leaks – corrosion – damage*	
Exhaust system – *condition – security – leaks*		Brake systems & components	
Smoke emission – *opacity & colour*		Pipes/valves – *leaks – condition – security*	
ANCILLARY EQUIPMENT		Load sensing device(s) – *condition – leaks*	

BRAKE PERFORMANCE – Test carried out YES/NO (tick box as appropriate)				
Tapley Test	☐	@	MPH	
Wet Road	☐	Dry Road	☐	
Laden	☐	Unladen	☐	
Roller Brake Test	☐			
Foundation Brake	%	Secondary Brake	%	Parking %

DETAILS OF FAULTS NEEDING RECTIFICATION	ACTION TAKEN TO RECTIFY FAULTS	DONE BY
Signature of engineer:	Signature of owner's representative:	Date completed 19
Print name	Print name	

MODEL SAFETY INSPECTION
PASSENGER CARRYING VEHICLES
(16 seats or more)

Owners Name: ..... Fleet No: .....

Engineer's Name: ..... Registration No: .....

Engineer's Company: ..... Mls/Kms: .....

Seating Capacity: ..... Inspection Date: .....

MARKING CODE	✓= Serviceable	X = Defect present	N/A = Not applicable

ALL ITEMS ARE TO BE CHECKED IN ACCORDANCE WITH THE PUBLIC SERVICE VEHICLE INSPECTION MANUAL

IM NO.	ITEM	CHECK FOR	CODE	COMMENTS
1	Smoke emission	Density		
2	Road wheels & hubs	Security, condition		
3	Size & type of tyre	Mis-matching		
4	Condition of tyres	Wear, damage, inflation, recut pattern		
5	Bumper bars	Security, condition		
6	Condition of wings & wheel arches	Security, condition		
7	Passenger doors	Condition, operation, legal markings		
	Driver's doors	Condition, operation, legal markings		
	Emergency exits	Condition, operation, legal markings, access		
8	Driver's accomm. & steps	Condition, security, access		
	Demist/defrosting equipment	Operation, blockage		
	Driver's signalling window	Operation, condition		
9	Driver's seat	Condition, security, position, adjustment		
10	Security of body	Condition, security, displacement		
	Exterior of body	Condition, security		
	Access doors and flaps	Condition, security		
	Luggage compartments	Condition		

SAFETY INSPECTION – PASSENGER CARRYING VEHICLES (PAGE 2)

IM NO.	ITEM	CHECK FOR	CODE	COMMENTS
11	Interior of body & passenger entrance & exits steps/platforms	Condition, security		
	Floor traps	Condition, security		
	Passenger seating	Layout, security, condition		
	Ventilators & opening windows	Condition, security, operation		
	Grab rail, guard rail, barriers etc.	Condition, security		
	Passenger area lighting	Condition, operation		
	Fire extinguisher	Readily available, condition		
	Parcel racks	Security, condition, danger to driver		
12	Mirrors	Presence, condition, security, adjustment		
13	View to front	Restriction		
14	Condition of glass or other transparent material	Cleanliness, type of glass, security		
15	Windscreen wipers & washers	Condition, operation		
16	Speedometer	Operation, illumination		
17	Audible warning (horn)	Operation, security, volume		
18	Driving controls	Operation, condition, security		
19	Rotating beacon	Operation, security, illumination		
20	Play at steering wheel	Extent of free play		
21	Steering wheel	Condition, security		
22	Steering column	Condition, security		
23	Pressure/vacuum warning	Operation, position, illumination		
24	Build-up of pressure/vacuum	Time taken		
25	Hand lever operating mechanical braking system	Operation, condition		
26	Service brake pedal	Condition, security		
27	Service brake operation (cab check)	Operation		
28	Hand operated brake control valves	Operation, condition, security		
29	Condition of chassis	Distortion, cracks, damage, security		
30	Electrical equipment & wiring	Condition, security, contamination, fire hazard		
31	Engine & transmission mountings	Security, condition		
32	Oil & water leaks	Health or fire hazard		

SAFETY INSPECTION – PASSENGER CARRYING VEHICLES (PAGE 3)

IM NO.	ITEM	CHECK FOR	CODE	COMMENTS
33	Fuel tanks & systems including ancillaries)	Security, leaks, fire hazard		
34	Exhaust (including ancillaries)	Condition, security, leaks, fire hazard		
35	Suspension pins and bushes	Condition, security, wear		
36	Suspension spring units & linkages	Condition, security, alignment		
37	Attachment of spring units, linkages & subframes	Condition, security		
38	Shock absorbers	Presence, condition, security, leaks		
39	Stub axles, wheel bearings	Wear, adjustment, condition		
40	Steering linkages	Condition, security, free operation		
41	Steering gear	Condition, security, adjustment		
42	Power steering	Condition, security, adjustment, leaks		
43	Transmission	Condition, security, fouling		
44	Additional braking devices (including retarders)	Condition, security, operation		
45	Mechanical brake components	Condition, security, adjustment		
46	Brake actuators	Condition, security, adjustment		
47	Braking systems & components	Condition, security, operation, leaks, adjustment		
48	Front position lamps	Condition, operation, position		
49	Rear position lamps	Condition, operation, position		
50	Rotating beacon	Operation		
51	Reflectors	Condition, position, marking		
52	Direction indicators	Condition, operation, flash rate		
53	Aim of headlamps	Beam pattern, aim		
54	Headlamps	Condition, operation		
55	Stop lamps	Condition, operation, position, marking		
56	Additional braking devices	Condition, security, operation		

SAFETY INSPECTION – PASSENGER CARRYING VEHICLES (PAGE 4)

ENGINE COMPARTMENT – CHECK	CODE	BRAKES – CHECK	CODE
Engine mountings – *condition – security*		Mechanical break components – *condition – operation*	
Oil leaks – *extent & effect*		Drum & linings – *condition*	
Fuel tanks & systems – *condition – leaks*		Brake actuators – *security – leaks – corrosion – damage*	
Exhaust system – *condition – security – leaks*		Brake systems & components	
Smoke emission – *opacity & colour*		Pipes/valves – *leaks – condition – security*	
ANCILLARY EQUIPMENT		Load sensing device(s) – *condition – leaks*	

BRAKE PERFORMANCE – Test carried out YES/NO (tick box as appropriate)				
Tapley Test	☐	@	MPH	
Wet Road	☐	Dry Road	☐	
Laden	☐	Unladen	☐	
Roller Brake Test	☐			
Foundation Brake	%	Secondary Brake	%	Parking %

DETAILS OF FAULTS NEEDING RECTIFICATION	ACTION TAKEN TO RECTIFY FAULTS	DONE BY
Signature of engineer:	Signature of owner's representative:	
Print name	Print name	

MODEL SAFETY INSPECTION
VEHICLE MOUNTED LIFTING EQUIPMENT/CARGO ELEVATORS

Owners Name: ..... Type of Equipment:..... Date: .....

Engineer's Name: ..... Manufacturer: .....

Engineer's Company: ..... Equipment I/D No: ..... SWL: .....

Date of Previous Inspection: ..... Mounted on Vehicle/Trailer No: .....

INSPECTOR'S MARKING CODE	✓= Serviceable	X = Defect present	N/A = Not applicable

1	Structure		11	Hydraulic controls	
2	Mountings/Fixings		12	Hydraulic pump/Pipework/Hoses/Fluid level	
3	Legs/Jacks/Supports		13	Hydraulic power rams	
4	Tracks/Runners/Rollers, etc.		14	Wire ropes/Chains/Hooks/Links	
5	Platform		15	Pulleys/Sprockets	
6	Toe plates/Guards/Hand rails/ Grab handles		16	Track stops/Ram stops	
7	Hinges/Torsion bars/Catches		17	Fail safe devices/Limit switches	
8	Electrical controls/Switches		18	Load jibs/Masts/Gantry/Lifting arms/Booms	
9	Electrical wiring		19	Pivot pins/Locking devices, etc.	
10	Power unit		20	Markings	

OPERATION TEST RESULTS:

LOAD TEST RESULT ON LIFTING EQUIPMENT

CREEP IN 10 Mins: ..... IMPOSED LOAD: ..... KG/LBS

DEFECTS FOUND:

The Results of this Examination indicate that this lifting equipment is Safe/Unsafe to use

Engineer's comments:	Rectification to items:
Signature:	Signature Owner's Representative:
Print Name:	Print Name:

MODEL SAFETY INSPECTION
DE-ICER, GRITTER AND GULLY EMPTIER

Owners Name: ..... Fleet No: .....

Engineer's Name: ..... Registration No: .....

Engineer's Company: ..... Mls/Kms:: .....

Seating Capacity: ..... Inspection Date: .....

MARKING CODE	✓= Serviceable	X = Defect present	N/A = Not applicable

	AUXILIARY ENGINE	CODE
1	Check exhaust system – clean & secure – free from leaks	
2	Check for oil leaks	
3	Check operation of throttle & stop controls & operation of speed governor	
4	Check security of starter, driver belt tension, wiring connections satisfactory	
5	Check battery, condition of charge, leads & carrier secure	
	DE-ICER	**CODE**
6	Check all pipe connections for leaks and chafing of flexible hoses	
7	Check spray booms and jets for damage	
8	Check security of boom storage	
	GRITTER	**CODE**
9	Check hydraulic pipes in good order – unions secure – no leaks	
10	Check conveyor belt in good order and adjustment correct	
11	Examine flexible drive shaft – ensure serviceable	
12	Check feed door and control operating freely	

	GULLY EMPTIER	CODE
13	Check P.T.O. control and drive	
14	Check P.T.O. drive shaft 'UJs' tight & serviceable	
15	Check vacuum pump secure – bearing lubrication pipes & valves in order	
16	Check all changeover and shut off valves operating satisfactorily	
17	Check all breathers clear & serviceable	
18	Check boom tension satisfactory (refer manufacturer's instruction)	
19	Check stern rest & securing brackets/straps safe	
20	Ensure rear door seal & locking bolts in good order	
21	Check vacuum gauge in good working order	

Signature of engineer:	Signature of owner's representative:	
Print name:	Print name:	Date

MODEL SAFETY INSPECTION
SUCTION AND TRACTOR MOUNTED SWEEPERS

Owners Name: ..... D/Bar or Semi ..... Fleet No: .....

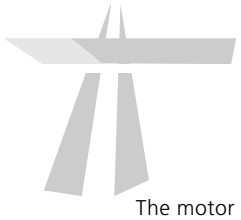
Engineer's Name: ..... No. of Axles: ..... Identification No: .....

Engineer's Company: ..... Date of this inspection: .....

MARKING CODE	✓= Serviceable	X = Defect present	N/A = Not applicable

	SUCTION SWEEPER	CODE		TRACTOR MOUNTED SWEEPER	CODE
1	Examine all hoses (condition & connection secure)		13	Check brush frame indicated in Maintenance Manual	
2	Examine pump belt (condition & tension)		14	Check shaft bearings	
3	Examine suction fan drive belts and hydraulic tensioner (Lacre)		15	Examine all linkage points on frame & drive chains to brush	
4	Examine lift cables and pulleys (Johnson)		16	Check bevel drive gearbox	
5	Examine wear plates (Johnson)		17	Check condition of & tension of drive chains, security of tension springs	
6	Check all sealing rubbers		18	Check brush shaft bearings for wear	
7	Check control cables (condition & adjustment)		19	Check wear on chain sprockets & security of chain guard	
8	Check control lever mountings		20	Check security of tractor hydraulic operating lift & ram seals for leaks – condition of operating cable	
9	Crawler Box (Johnson), Brush driver box (Lacre)		21	Check condition and security of P.T.O. & drive gear to brush	
10	Upper bevel box (2) (Johnson). Hydraulic tank (Lacre)				
11	P.T.O. Box				
12	Check castor wheels on suction box and tyre condition, tyre pressure (Johnson)				

Signature of engineer:	Signature of owner's representative	
Print name	Print name	Date:



Keep this Certificate safely
The Department of Transport

See notes overleaf

Test Certificate

Serial number

OS 0931842

The motor vehicle of which the Registration Mark

G 4 1 9 M G F

having been examined under section 45 of the Road Traffic Act 1988, it is hereby certified that at the date of the examination thereof the statutory requirements prescribed by Regulations made under the said section 45 were complied with in relation to the vehicle.

Vehicle identification or chassis number

SAXXCHFS7AN[illegible]4871

Vehicle Testing Station Number

15107

Date of issue

May 28th (Ninety 1993 Three)

Date of expiry

May 27th (Ninety 1994 Four)

Serial Number of immediately preceding Test Certificate

N/A

(To be entered when the above date of expiry is more than 12 months after the above date of issue.)

Vehicle Colour

YELLOW

Vehicle make

B.L.M.C

Approximate year of first use

1990

Recorded mileage

31745

If a goods vehicle, max design gross weight

N/A

If not a goods vehicle, horse power or cylinder capacity of engine in cubic centimetres

2000cc

Fuel type

DIESEL

Signature of tester/inspector

A.N. Other

Name in BLOCK CAPITALS

A.N. OTHER

WARNING

A Test Certificate should not be accepted as evidence of the satisfactory mechanical condition of a used vehicle offered for sale.

CHECK

carefully that the particulars quoted above are correct. Certificates showing alterations should not be issued or accepted. They may delay the renewal of a Licence.

Authentication Stamp

VT 20

Department of Transport
Road Traffic Act 1988, Section 49

H 02585I

Goods Vehicle Test Certificate Motor Vehicle

The vehicle of which the registration mark or serial number

is F 5 3 8 R L A | Registration Mark Validation Character

has been examined under Section 49 of the Road Traffic Act 1988 and in accordance with the regulations and directions issued under that section, it is hereby certified that the vehicle was found to comply with the statutory requirements prescribed under that section.
This certificate is valid from the date of issue until

the last day of the month of **April** 19**94** **(Ninety four)**

WARNING
Certificates showing alterations should not be issued or accepted

(a) Date of issue of Certificate.	**29/6/93**
(b) Date of examination completed (if different from (a))	
Signature	**A.N. Other**
Vehicle Testing Station No.	**01**

NOTE
Please read the notes on the back of this Certificate as soon as you receive it

VTG 5
Rev. 89

Department of Transport
Road Traffic Act 1988, Section 45

Serial No. B L0997E

Vehicle Test Certificate

Public Service Vehicle

The vehicle of which the registration mark or chassis number

is H 2 5 7 E O T Registration Mark / Validation Character B

has been examined under Section 45 of the Road Traffic Act 1988 and in accordance with the regulations and directions issued under that section, it is hereby certified that the vehicle was found to comply with the statutory requirements prescribed under that section.
This certificate is valid from the date of issue until

the last day of the month of

WARNING
Certificates showing alterations should not be issued or accepted

Expires on	**August 01st 1994 (Ninety four)**
Date of Issue	**August 02nd 1993 (Ninety three)**
Signature	**A.N. Other**
Vehicle Testing Station No.	**01**

NOTE
Please read the notes on the back of this Certificate as soon as you receive it

VTP 20
Rev. 91

MODEL SAFETY INSPECTION
CARS, VANS & LIGHT VEHICLES
UNDER 3.5 TONNES GROSS VEHICLE WEIGHT
(including mini-buses 15 seats or less)

Owners Name: ..... Artic/Rigid: ..... Fleet No: .....

Engineer's Name: ..... No. of Axles: ..... Registration No: .....

Engineer's Company: ..... Odometer reading: ..... Date of this inspection: .....

MARKING CODE ✓= Serviceable X = Defect present N/A = Not applicable

	LIGHTING EQUIPMENT	CODE			CODE
1	Front & rear lamps etc.		17	Service brake performance	
2	Headlamps		18	Parking brake performance	
3	Headlamp aim		19	Additional braking devices	
4	Stop lamps			TYRES AND WHEELS	CODE
5	Rear reflectors		20	Tyre type	
6	Direction indicators & hazard lamps		21	Tyre load/speed ratings (class V & VII)	
	STEERING AND SUSPENSION	CODE	22	Tyre condition	
7	Steering control		23	Road wheels	
8	Steering mechanism/system			GENERAL	CODE
9	Power steering		24	Horn	
10	Transmission shafts		25	Exhaust system	
11	Wheel bearings		26	Exhaust emissions	
12	Front suspension		27	General vehicle condition	
13	Rear suspension		28	Mirrors	
14	Shock absorbers		29	Fuel System	
	BRAKES	CODE	30	Speedo	
15	Condition of service brake system				
16	Condition of parking brake system				

Signature of engineer:	Signature of owner's representative	
Print name	Print name	Date:

MODEL SAFETY INSPECTION
WASTE DISPOSAL COMPACTION VEHICLE

Company Name: ..... Type of Equipment: ..... Fleet No: .....

Engineer's Name: ..... Registration No: .....

Engineer's Company: ..... Date: .....

MARKING CODE ✓= Serviceable X = Defect present N/A = Not applicable

		CODE			CODE
1	Structure/Mounting – *Conditions – Security*		20	Hydraulic Reservoir – *Security – Condition*	
2	Side Doors/Roof Doors/Port Holes – *Compliance – Condition – Security*		21	Pump Drives & Guards – *Condition – Guarded*	
3	Scatter Guard/Cab Guards – *Condition – Security*		22	P.T.O./Pump Control – *Compliance – Condition – Operation*	
4	Body Ladders – *Condition – Security*		23	Tail Gate Control – *Compliance – Condition – Operation*	
5	Arms/Member/Links – *Distortion – Condition – Security*		24	Compaction Control – *Compliance – Condition – Operation*	
6	Pivot Pins/Bushes – *Wear – Damage – Security*		25	Ejector Control – *Compliance – Condition – Operation*	
7	Locking Pins/Security Devices – *Condition – Security*		26	Tipping Control – *Compliance – Condition – Operation*	
8	Support Jacks – *Condition – Security – Operation*		27	Emergency Stop Controls – *Compliance – Condition –Operation*	
9	Ejector Plate Assembly – *Condition – Security – Operation*		28	Start Controls – *Compliance – Condition – Operation*	
10	Loading Doors/Tail Gate Assemblies – *Condition – Security – Operation*		29	Wiring & Switches – *Compliance – Condition – Operation*	
11	Compactor Assembly – *Compliance – Condition – Operation*		30	Warning Beacons – *Compliance – Operation*	
12	Hopper – *Compliance – Condition*		31	Audible Reserve Warning – *Compliance – Operation*	
13	Paladin Bin Lifts – *Condition – Operation*		32	SWL – *Position/Clarity*	
14	Boom Ram Guards (Skip Loaders) – *Condition – Security*		33	Control Labels – *Position/Clarity*	
15	Tip/Bale Hooks – *Condition – Security*		34	Warning Signs – *Position/Clarity*	
16	Lift Chains – *Wear – Damage – Security*		35	Lifting – *Satisfactory*	
17	Lift Arms & Tilt Forks – *Conditions – Security*		36	Loading/Compacting – *Satisfactory*	
18	Rams/Cylinders – *Security – Leaks – Check Valves*		37	Tipping/Ejecting – *Satisfactory*	
19	Hoses & Seals – *Condition – Security*				

Signature of engineer:	Signature of owner's representative
Print name	Print name

Appendix D – Accident Reporting Procedures

MANPOOL AIRPORT

MODEL INSTRUCTION NO. 3/9–
AIRSIDE ACCIDENT REPORTING

Note: Compliance with the Terms of Operational Instructions is a Condition of Use of Manpool Airport. Employers are responsible for ensuring that their staff are familiar with relevant Instructions.

1 INTRODUCTION

1.1 All accidents occurring on the airside must be reported, and the purpose of this Instruction is to describe how this should be done and what details should be given. The aim is to ensure that immediate action is taken to safeguard life and property including aircraft, vehicles, buildings and their associated structures.

1.2 Action taken under the terms of this Instruction does not replace any action required by individual employers or by the Manpool Airport Emergency Orders or the Bye-Laws, nor does it absolve any person from any statutory responsibility under the Civil Aviation (Investigation of Air Accidents) Regulations, 1989, or Article 94 of the Air Navigation Order 1989 (Mandatory Occurrence Reporting).

2 REPORTING PROCEDURES

2.1 Accidents must be reported without delay by the vehicle driver, airbridge or equipment operator or other persons involved. The Report is to be made to the airport Telephone Exchange in one of the following ways:

(a) From telephones on the Airport Exchange – dial 222.

(b) From Red Emergency Telephones – lift receiver.

(c) From external telephones dial 0161-160 6161.

There is a telephone connected to the airport Exchange at the head of every aircraft stand. Their location is indicated by prominent pictogram signs on a green background. If the report is made by radio on a company frequency, the company base station operator must make the report to the Telephone Exchange as described above.

2.2 The call to the Telephone Exchange must state the following:

(a) Location and nature of the accident.

(b) Whether or not an aircraft is involved.

(c) If there is a fire.

(d) If there are casualties.

(e) Name and details of the caller.

The Telephone Exchange will pass the message to the Operations Safety Unit, the Police, and the airport Fire Service. The Fire Service will respond automatically to any accident involving an aircraft, and will advise Air Traffic Control if the declaration of a state of emergency in accordance with the Airport Emergency Orders is required.

2.3 Vehicles and equipment should not normally be moved until the Police are in attendance. However, if in the judgement of the senior person present or the Officer in Charge of the Fire Service their removal is necessary in the interests of safety or to effect rescue, this may be done. If circumstances permit, the scene should be photographed before the vehicles are disturbed.

3 INVESTIGATION

Unless those involved in the accident are injured, they should remain at the scene until released by the Police.

Appendix E – Operation of Vehicles on the Airside – General

MANPOOL AIRPORT

MODEL INSTRUCTION No. 4/9–
OPERATION OF VEHICLES ON THE AIRSIDE AT MANPOOL AIRPORT

Note: Compliance with the Terms of Operational Instructions is a Condition of Use of Manpool Airport. Employers are responsible for ensuring that their staff are familiar with relevant Instructions.

1 INTRODUCTION

1.1 The purpose of this Instruction is to specify the rules for the operation of vehicles, including mobile equipment, on the airside at Manpool Airport. Strict control is exercised by Manpool Airport staff and the Borsetshire Police with the aim of creating a safe environment and avoiding conflict between aircraft and vehicles.

1.2 Failure to comply with the provisions of the Air Navigation Order, Airport Bye-Laws and this Instruction may render the offender and/or his company liable to penalties which could include withdrawal of permission to enter the airside.

2 AIRSIDE PERMITS – DRIVERS

2.1 All drivers must hold a full (ie not provisional) current Driving Licence, valid in the UK, entitling him to drive a motor vehicle on public roads.

2.2 Drivers must also hold a current Airside Driving Permit issued after the successful completion of the Airside Driving Course run by Manpool Airport Limited or an authorised agent. Details of courses and authorised agents are at Appendix A to this Instruction.

2.3 In the case of heavy or specialist vehicles, drivers must also hold either:

(a) The relevant category of HGV or PSV Licence, or

(b) A certificate from the employer stating that the holder has been trained, tested and found competent in the operation, on the airside only, of the vehicles and equipment named.

2.4 Drivers should meet the approved medical standards.

2.5 Drivers must produce personal identity cards, Driving Licences, Airside Driving Permits and specialist qualification certificates on demand to Manpool Airport Limited Operations staff and Officers of Borsetshire Police.

3 AIRSIDE PERMITS – VEHICLES

3.1 Subject to the exceptions listed below, no vehicle would be permitted to enter the airside unless it bears, in the approved position, a current Airside Vehicle Permit. Passes will not be issued to bicycles or motorcycles.

3.2 Manpool Airport is included in the UK National Aviation Security Programme, and the requirements for Airside Vehicle Permits are specified in Directions made under the provisions of the Aviation Security Act, 1982. Full details of the requirements for the issue of permits are published in Security Instruction 1/94.

3.3 Vehicles in the following categories do not require permits and will be admitted to the airside, subject to any condition specified:

(a) Police vehicles attending an emergency.

(b) Specialist military vehicles, escorted by police vehicles, attending an emergency.

(c) Local Authority fire appliances attending an emergency.

(d) Local Authority ambulances attending an emergency.

(e) Local Authority or private ambulances on non-emergency medical duties, provided that they have prior approval from the Airport Medical Centre and are escorted by an authorised person.

(f) Goods vehicles making an ad hoc delivery or collection of goods and supplies to premises on the airside, provided that they are escorted by an authorised person.

(g) In the cargo area only, vehicles carrying abnormal or indivisible loads, subject to current security arrangements and escort by an authorised person.

3.4 Applications for Airside Vehicle Permits must be accompanied by documentary evidence covering the following requirements:

(a) Certification by a competent engineer that the vehicle has been properly maintained and is in good condition. Forms for this purpose, appropriate to the type of vehicle, are issued with the application forms and examples are at Appendix C. Manpool Airport reserves the right to audit operators' vehicle records at any time, and the records for vehicles involved in accidents must be produced to Manpool Airport or Borsetshire Police staff investigating the accident.

(b) Certification, on the application form, that the vehicle operator carries adequate insurance covering the risks specified. The sum insured must be not less than £40M at Manpool Airport. Full details of these requirements are given in **Model Instruction No. 2/9-.**

4 VEHICLE REQUIREMENTS

4.1 All vehicle must display a current Airside Vehicle Permit issued for that vehicle.

4.2 All vehicles must be in company livery or identified by prominent display of the operator's name.

4.3 Vehicles, and trailers, must not be higher than 12ft. Vehicles with bodies that can be raised above this height should have a warning device fitted in the cab that operates when 'drive' is engaged with the body raised.

4.4 Vehicles and trailers should not be wider than 8ft 3ins.

4.5 Vehicles and axle loading should not be greater than 5 tonnes per wheel.

4.6 All vehicles and combinations of vehicles and trailers should be able to negotiate a 33ft radius turn.

4.7 All vehicles and equipment with engines must be fitted with secure fuel tank caps.

4.8 Airside passenger coaches should be fitted with doors on both sides.

4.9 The total length of trailer trains, including the prime mover and couplings, must not exceed 60ft.

4.10 All trailers must be securely attached to the prime mover and each other, and be fitted with serviceable overrun and parking brakes.

4.11 Vehicle obstruction lights, where necessary, should be fitted at the highest point of the vehicle, and be visible horizontally in all directions. Obstruction lights should be to the following specification:

(a) Colour – yellow.

(b) Intensity – not more than 400 and not less than 40 candelas.

(c) Beam spread – 360 degrees Azimuth, 10 degrees above and below the horizontal.

(d) Flash rate – between 60 and 90 a minute.

4.12 In addition to the requirements listed above, the provisions of the Road Traffic Act and Vehicle Construction and Usage Regulations should be followed so far as is possible on the airside. They must be complied with when vehicles are on landside roads.

5 AIRSIDE AREAS

5.1 For practical purposes from the driver's point of view, the airside is that part of the airport where aircraft operate and is reached through a control post, where vehicle and personal identity checks and any security checks are made.

5.2 In broad terms, the airside comprises two principal areas:

(a) The manoeuvring area where aircraft land and take off, and taxi between the runways and the terminals.

(b) The aprons where aircraft park for embarkation and disembarkation of passengers and cargo, and where turn-round operations such as refuelling, cleaning, catering and some minor servicing are carried out.

5.3 Very few vehicles are permitted to operate on the manoeuvring area, whereas large numbers operate on the aprons and the associated service roads. Access through the control posts invariably is to the apron areas or a service road, and the airside driver's permit has two grades. The first is for driving on apron and airside roads only. The second is for all areas. Extra training, including the use of radio, is required for the all-areas permit.

5.4 Yellow paint markings on the ground are for guidance for aircraft. White markings on aircraft stand areas are for the control of vehicles and equipment, and indicate the boundaries of stands and equipment parking areas and, when cross-hatched, areas which must be kept free of vehicle and equipment. A continuous double white line marks the back of the stands and is the boundary between the apron area and the manoeuvring area.

5.5 Drivers of vehicles that operate on the manoeuvring areas must have an all-areas driving permit.

5.6 When on the manoeuvring area, vehicles must have two-way radio contact, or if so authorized maintain a listening watch on the Ground Movement Control Frequency.

5.7 The following vehicles are permitted to cross active runways when operationally necessary:

(a) Manpool Airport Operations vehicles.

(b) Manpool Airport leader vehicles.

(c) CAA and NATS operational vehicles.

(d) Police vehicles responding to emergencies.

(e) Manpool Airport fire appliances.

(f) Snow clearance vehicles.

(g) Aircraft tugs.

(h) Manpool Airport driver training vehicles (with prior approval of the ATC Watch Supervisor).

6 TRAFFIC RULES

6.1 Whether inside or outside a vehicle the airside is a 'no smoking' area.

6.2 Vehicles must give way to aircraft at all times.

6.3 The speed limits on the aprons and service roads is 20mph unless otherwise indicated by standard road traffic speed limit signs. A speed much lower than the limit may be appropriate, especially when approaching aircraft on stands.

6.4 Vehicles must keep left when passing an approaching vehicle and overtake, where necessary on the right.

6.5 Vehicles must not be parked except in authorised parking areas.

6.6 No vehicle is to be left unattended with its engine running.

6.7 Vehicles must not be driven with doors or shutters open.

6.8 Loads must be properly secured to prevent any objects falling on to the aprons or manoeuvring area where they present a serious hazard to aircraft and other vehicles.

6.9 Vehicles must not be driven into or through works areas, unless in conjunction with the work. Such areas are prominently marked and, where necessary, diversion routes are indicated.

6.10 Vehicles must not be driven on to or across stands, even when no aircraft is present, unless in connection with work on the stands such as aircraft turn-round or maintenance on the stand itself.

6.11 Vehicles must not move on or off a stand when an aircraft is moving, its engines are running, or the anti-collision lights are on.

6.12 Vehicles must stay well clear of the area directly in front of and behind aircraft engines when they are running or when the anti-collision lights are on.

6.13 All vehicles and other ground service equipment in transit must maintain a minimum safe clearance of 1 metre around aircraft on stands.

6.14 Vehicles may only be driven in reverse gear when it is essential for the task in hand. When this is on an occupied stand, it must be done under external guidance.

6.15 During the hours of darkness, vehicles on aprons and service roads must have and use serviceable lighting, ie two white lights at the front and two red lights at the rear of the vehicle. If ambient lighting is low or in poor visibility, dipped headlights should be used. Vehicles over 8ft long must have side reflectors (red or amber) at each end.

6.16 Vehicles operating on the manoeuvring area must have obstruction lights on at all times and use dipped headlights after dark.

6.17 All accidents, whether or not an aircraft is involved, must be reported immediately to the Telephone Exchange on extension 222. The full accident reporting procedure is published in Operations Instruction No. 3/9-.

7 MONITORING OF STANDARDS

7.1 All operators are responsible for the standards of training and performance of their staff and are expected to exercise adequate supervision of their activities. Manpool Airport Operations staff, and Officers of the airport branch of the Borsetshire Police patrol the airside and monitor compliance with Manpool Airport Safety instructions and Bye-Laws and the Air Navigation Order.

7.2 Manpool Airport reserves the right to conduct audits of operators' records of staff training and testing and vehicle maintenance and testing, and such records must be produced on demand. In addition, the re-testing of drivers and inspection of vehicles may be required at any time.

8 ACCIDENT INVESTIGATION

8.1 Manpool Airport Operations staff and/or the Police will investigate all accidents. When an accident involves damage to an aircraft the Aircraft Accident Investigation Branch of the Department of Transport may also conduct an investigation. Such investigations will involve scrutiny of operators' records of staff training and testing and vehicle maintenance and testing. These records must be made available to investigators on demand.

8.2 If a person is injured the accident may be reportable. See Part 4 sub-para 3.12.5.

9 PENALTIES FOR NON COMPLIANCE

Infringement of the provisions of the Air Navigation Order and the Airport Bye-Laws can result in prosecution of the offender and lead to fines of up to £2000 and/or imprisonment for up to 2 years, depending on the nature and severity of the offence. Breach of the provisions of this Instruction can lead to penalties such as the temporary withdrawal of the airside ID pass of the offender for a first offence, to withdrawal for a longer period or permanently for repeated offences. Alternatively, the Airside Driving permit may be withdrawn. The Airside Vehicle Permits of vehicles found to be in poor condition or illegally parked may be withdrawn. In cases of gross infringement, all the airside passes may be withdrawn from staff and vehicles belonging to the offending company.

10 INQUIRIES

Any questions about the provisions of this Instruction should be addressed to the Airfield Operations Manager on Ext: 1234.

Part 5 Aircraft Movements

CONTENTS

INTRODUCTION TO PART 5

1.1 In comparison to the safe controlled movements of aircraft on the manoeuvring area, the complexity of operations on the apron provides a potential for accidents. On the apron, vehicles, equipment and people are engaged in a time pressured and often congested environment requiring an efficient safety management system to permit the safe and effective operation of aircraft handling and ramp activities.

1.2 It is recognised that much of the content of Part 5 may appear to be geared to large airports. However, safety management of the apron will apply to any airport, regardless of size, only the range and magnitude of operations will vary. The strong underlying safety principles of training, awareness and proper supervision, combined with a clean, uncluttered ramp and the use of 'best practice', are in fact equally applicable at all aerodromes. Managers will need to consider the degree of applicability of the detailed material presented in this Part and, indeed, the use of any suitable control measures additional to those described.

1.3 The principal safety threats to aircraft and their occupants are as follows:

- Damage to aircraft from collisions with airbridges, vehicles or other obstructions.
- Foreign object damage (FOD) principally to engines, control systems and tyres.
- Damage to aircraft by objects displaced by jet-blast, prop-wash or strong winds.
- Apron surface contamination.

1.4 The principal safety threats to individuals are as follows:

- Exposure to jet engine intakes or collisions with rotating propellers or rotors.
- Being run over by aircraft during push-back or towing operations.
- Accidents caused by mishandling vehicles or equipment.
- Slipping and falling accidents caused by surface contamination.
- Injuries caused by jet-blast or prop-wash.
- Falling from open aircraft doors.
- Injuries to unsupervised passengers.

1.5 This Part sets out both broad and detailed measures to be considered for incorporation into the Safety Management System; following these requirements will promote safe and effective handling procedures for aircraft and equipment and will maintain a safe working environment for staff. There is an emphasis on the need for effective training and supervision and the 'best practice' advice given is for a wide range of airports, aerodromes and associated operations; all should be applied in the various apron operations.

1.6 The appendices consist of a series of model safety instructions which are constructed to include all relevant points or issues of the described operation. The models are offered for consideration as a strong basis for the drafting of suitable instructions for each individual aerodrome's own operation.

2 AIRBRIDGE OPERATIONS

2.1 The operation of airbridges calls for good operator skills. For the unwary there is great potential for damage to aircraft and equipment. Flight crew and ramp staff should be fully aware of the characteristics and problems of airbridge operations and, from the ramp viewpoint, the need not to obstruct airbridge movements.

2.2 Operating Procedures

2.2.1 Airport authorities should ensure that their safety management system includes the establishment and promulgation of Standard Operating Procedures(SOPs) for airbridges including emergency back-off and wind-off procedures. Instructions for emergency wind-off action should be displayed in the airbridge cab and in the case of manual wind-off, at the point of operation.

2.2.2 In the event of an aircraft emergency during embarkation, disembarkation or aircraft start up, the airbridge should remain attached to the aircraft until all passengers and crew have evacuated the aircraft.

2.3 Operator Training and Licensing

2.3.1 A system should be established for the training, testing and licensing of airbridge operators in accordance with Part 6 of this publication. An Airbridge Operators Licence (or Permit), endorsed for the appropriate type of airbridge, should be issued by the airport authority when a satisfactory level of competence has been demonstrated by means of a practical test under the supervision of the airport authority.

2.3.2 Licences should only be issued to those staff who regularly operate airbridges as part of their job function, as it is these staff who remain fully familiar, in good operational practice and up to date with operational changes and airbridge modification states. Licence holders should be subject to regular re-validation . The airport authority should also establish an audit system for operator competency and adherence to standards, including the examination and recording of airbridge incidents and major faults. Following an accident or incident, airbridge operators should be subject to re-validation on request of the airport authority and it should be possible to suspend an operator's licence pending re-training.

2.4 Airbridge Equipment

2.4.1 It is suggested that the following auxiliary equipment is fitted to apron drive airbridges:

(a) Audible and visual alarms that operate automatically when the bridge is in motion.

(b) In order to overcome downward and rearward blind spots for the operator, CCTV or sight mirrors to cover blind areas.

(c) Pressure sensitive safety hoops which, when they touch an object, cut out the motive force thus stopping movement of the bridge.

2.5 Ground and Equipment Markings

2.5.1 For stands equipped with an apron-drive airbridge a ground marking in the form of a hatched area should be provided to delineate the area within which the movement of the airbridge wheels is protected from obstruction and damage. Within this area the parking of vehicles and equipment must be prohibited.

2.5.2 For stands equipped with an apron-drive airbridge, a ground marking in the form of a parking box should be provided to show the position of the airbridge wheels when it is fully retracted so that the prescribed safe clearance can be maintained between any aircraft and the bridge structure.

2.5.3 To assist marshallers and tow-on crews, painted stop bars should be provided across the stand centreline and designated for aircraft type. These stop bars should be harmonised with the Stand Entry Guidance (SEG) stopping positions for the particular aircraft.

2.5.4 The extensible portion of rail-drive airbridges should be highlighted by conspicuous markings (such as retroflective chevrons) to indicate to pilots, drivers and apron staff that the bridge is extended.

2.6 Airbridge Unserviceabilities

2.6.1 Airport authorities should establish and promulgate a formal reporting system for airbridge faults. The procedure should include immediate response activities by engineering and airfield operations staff to maintain safe aircraft and passenger handling.

2.6.2 Airport authorities should establish a schedule of preventative maintenance.

2.7 See Model Safety Instruction – PASSENGER AIRBRIDGES – at Appendix A.

3 AIRCRAFT PARKING SAFETY PRACTICES

3.1 Operation of the stand

The following paragraphs describe typical responsibilities and accountabilities for the operation of aircraft on and off stand. Relationships might vary from airport to airport due to differing contractual arrangements or other owner/operator agreements. Each airport must establish its own hierarchy of responsibilities and then work to establish agreed safe working practices within that framework.

3.1.1 The airport authority is responsible for the rules and procedures that safeguard the arrival and departure movements of aircraft on stands and for the dissemination of information to airline/company operators. Information documents/instructions and requirements should be based upon the subjects described in the following paragraphs.

3.2 Stand Entry Guidance (SEG)

Where SEG is provided , the airport authority should arrange for the stopping guidance element to be calibrated and indicated, for all selected user aircraft, in a clear

and unambiguous fashion. The azimuth guidance should be regularly checked for accuracy. SEG systems should be subject to daily serviceability checks which should be recorded. Details of the SEG available at the airport should be promulgated in The UK Aeronautical Information Publication (Air Pilot).

3.3 'Ownership' of Stand/Parking Bay

3.3.1 In general the airport authority has the responsibility to ensure that aircraft stands are serviceable, clean and free from obstruction. However, in the busy operation of the apron with minute to minute changes of status and vehicle/equipment movements there are specific responsibilities for handling staff.

3.3.2 When a stand is allocated for use to an aircraft operator and the arrival of their aircraft on stand is imminent it is usually the responsibility of the handling staff to ensure that the stand and clearways are free from obstruction by vehicles or equipment. These staff should also ensure that the airbridge(s) is(are) fully retracted or correctly parked with the drive wheels in the parking box provided (see para 2.5.2 above) before the arrival of the aircraft. These actions must be completed by the handler before the SEG is switched on. Switching on the SEG signifies to the aircraft commander that these actions have been completed and it is safe for the aircraft to enter the stand.

3.3.3 A supervisor should be nominated to control and manage the various stages of the operation and should be clearly identified to all staff working on the stand. A supervisor should be present throughout the arrival, handling and departure procedures.

3.3.4 When turn-round operations have been completed and the aircraft is ready to depart airline staff should ensure that the stand is free from obstruction by vehicles and equipment before push-back commences. (Airbridge positioning is covered in a subsequent paragraph).

3.3.5 Before leaving the stand handling staff must ensure that the SEG is switched off.

NOTE: Not necessary where SEG is on a time switch.

3.4 Aircraft Parking Safety Considerations

In general the greatest threats to the safety of an arriving aircraft are carelessly driven vehicles and indiscriminately parked or stowed ground equipment. The guidance for vehicle operations are contained in Part 4 of this manual (para 3.8 refers). Ground equipment should be/remain parked in the equipment areas provided, service vehicles and baggage trains should hold clear and equipment such as ground power units, or any other gear with trailing cables or hoses should be fully retracted and stowed. THE STAND MUST BE CLEAR OF ALL OBSTRUCTIONS WHEN AN AIRCRAFT IS IN MOTION. Other considerations for the safe docking and parking of an aircraft are described in the following paragraphs.

3.4.1 *Control of the Operation*

Except where the arriving aircraft is marshalled, handling staff are responsible for the control of the parking/docking operation once the aircraft has entered the stand. The nominated supervisor should control the progress of the operation and the actions of the handling team.

3.4.2 *Brakes/Chocks*

On arrival, when the aircraft is positioned to the pilot's satisfaction and finally stopped, the appropriate aircraft wheelbrakes should be engaged by the pilot until the aircraft has been safely and properly chocked (emergency situations such as dangerously hot or failed brakes will need to be dealt with under company procedures). Wheel chocks should not be inserted until the pilot has indicated that the aircraft has finally stopped, normally by shutting down the engines. To avoid the possibility of the aircraft climbing its chocks, or chocks being ejected, ground stop-marks should not be used as a positive indication to insert chocks or that the aircraft has reached its final position. When not in use chocks should be safely stowed and not left on the apron surface.

3.4.3 *Flap Movement*

Staff should be aware of the dangers of the movement of aircraft flaps and other underwing devices when an aircraft is on stand. These areas should be avoided by staff and vehicles and equipment should not be driven or parked in such a way that damage would be caused by flap and other control movements.

3.4.4 *Wheels*

When an aircraft is in motion staff should keep well clear of all wheels to avoid becoming trapped. When an aircraft arrives on stand, tyres and particularly brake assemblies can remain very hot for some time. Ramp staff should exercise care when required to work in the vicinity of aircraft wheels. Where there is some free movement of aircraft wheels, care must be exercised to ensure that hands or feet do not become trapped.

3.4.5 *Control of Passengers*

The movement of passengers walking on the apron must be strictly controlled and safeguarded as they are vulnerable and generally unaware of the dangers around them. Before the decision to establish passenger walking routes on the Apron is taken safer methods of passenger transit should be considered. If passengers have to be walked the following precautions should be undertaken:

(a) When passengers are making their way across the apron to or from an aircraft, sufficient numbers of handling agent staff should be present to guide and control their movement safely.

(b) Passengers should not be permitted to roam free and passenger routes should not pass below aircraft wings or beneath fuel vents or close to propellers or rotors of the aircraft they are boarding/disembarking or those of aircraft on adjacent stands.

(c) Restrictions should be placed on the running of aircraft engines in the vicinity of passengers and they should be protected from excessive engine noise.

(d) Pedestrian movements should be strictly segregated from vehicular traffic and should be routed clear of electrical cables, fuel hoses and other ramp equipment.

(e) The crossing of airside roads should be avoided but, where this is necessary, positive control of vehicular traffic should be undertaken to safeguard passenger transit.

(f) Where a regular passenger route leads to/from a terminal building consideration should be given to the provision of surface markings and clear, unambiguous signs to indicate the route to be followed.

3.4.6 *Marshalling of Aircraft*

The marshalling service is normally, but not necessarily exclusively, provided by the airport authority. The principal considerations are as follows:

(a) The airport authority as part of its safety management system should provide for the training, testing and authentication of aircraft marshallers. Standard marshalling signals, as laid down in the 'Rules of the Air Regulations 1991', Rule 48, should be employed. Only trained, experienced marshallers in regular marshalling practice should be permitted to marshal aircraft unsupervised.

(b) Except where full self manoeuvring is permitted, a marshalling service should be provided automatically on stands not equipped with SEG or where the SEG, or other stand facilities have known unserviceabilities. A marshalling service should also be available on request.

(c) In certain circumstances, such as a non-standard taxiway routing or on request from a visiting pilot, unfamiliar with the aerodrome, and/or in poor visibility, a 'Follow me' vehicle should lead the pilot to a marshaller or his parking place directly.

3.4.7 *Fixed Electrical Ground Power (FEGP)/Auxiliary Power*

To reduce noise, contamination from oil and exhaust emissions, the running of all types of engines on the apron should be kept to the minimum necessary to maintain operational needs. Where FEGP units are provided on stands they should be used in preference to other forms of auxiliary power. The running of aircraft Auxiliary Power Units (APUs) and engine driven Ground Power Units (GPUs) should be strictly controlled to the minimum operational requirement. Airlines should be encouraged to use GPUs with the quietest engines available. At large airports consideration can be given to the provision, on stand, of pre-conditioned air units to reduce the running of APUs for cabin conditioning.

3.5 Aircraft Arrival

3.5.1 *Safety of the Stand*

Fundamental to the smooth, professional management of an aircraft movement is the timely attendance of the dispatcher/ airbridge operator to initiate those actions necessary to promote a safe arrival sequence. A full functional check of the airbridge should be completed in good time before the aircraft arrives. To maintain aircraft and personnel safety and to ensure that the prescribed safe clearances between aircraft and bridge are maintained the following precautions should be observed:

(a) Before the aircraft enters the stand, ensure by personal visual inspection that there are no potential hazards to a safe parking operation.

(b) Before the aircraft enters the stand the drive wheels of an apron-drive bridge must be positioned in the marked parking box provided.

(c) Before the aircraft enters the stand a rail-drive airbridge must be fully retracted.

(d) A careful check should be made to ensure that no vehicles or equipment are obstructing the horizontal or vertical movement of the bridge.

(e) The airbridge cab should be adjusted vertically and in azimuth to suit the incoming aircraft type.

(f) Only when the aircraft has stopped; the wheel chocks are in place; the engines have run down and the aircraft anti-collision beacon has been extinguished, can the airbridge be driven from its parking position and docked to the aircraft.

(g) The aircraft passenger door should remain closed until the airbridge has been docked, the canopy has been lowered on to the fuselage and the autoleveller device has been set.

(h) The airbridge operator should remain in attendance in the cab until passenger disembarkation is completed.

3.5.2 *Emergency Stop System*

In order to deal with no-notice contingencies, failures and emergency situations on nose-in stands, consideration should be given to an indicator system to warn the pilot to make an emergency stop. Where signs are provided they should be located where easily visible to pilots, directly in front of the pilots and at a suitable height. The sign should be conspicuous and may take the form of a red flashing electronic warning sign indicating EMERGENCY STOP or STOP. The emergency stop warning should be capable of being activated both from the airbridge cab and from apron level.

3.5.3 *Stop Short System*

On stands equipped with SEG an indicator system should be provided to advise the pilot to stop short; this is normally because the airbridge is unserviceable and passenger steps must be used. Other unserviceabilities or works at the head of stand may also give rise to stop short conditions. The stop short indication may be an electronic sign associated with the SEG display or conspicuous painted signs may be used, normally fixed to the airbridge. In stop short conditions a marshalling service should be provided.

3.5.4 *Location of Controls*

The determination of the best positions for SEG, stop short and emergency stop switches may vary from airport to airport, or even from stand to stand. However, it should be an objective of the safety system to standardise the location of switches on all stands at a particular airport. The following locations offer the best control positions.

(a) *Emergency stop switches:* One gated switch located in the airbridge cab and clearly marked. A second gated switch, working in parallel with the first, located in a prominent and easily reached position at the head of stand and conspicuously marked.

(b) *Stop short and SEG Switches:* These switches can be grouped together. One set of switches should be located in the airbridge cab and clearly marked. A second

set of switches working in parallel with the first and located at a prominent easily reached position at stand level and conspicuously marked. Which of these positions in the primary SEG switching position will depend on which position gives the operator the best view of the stand area.

NB: It is important that SEG controls are located in a position such that the operator has an unimpeded view of the specific apron parking position whilst the controls are being used.

3.6 Aircraft Departure

To avoid damage and to maintain the prescribed safe clearances from the airbridge, the following precautions must be observed before aircraft push-back is initiated:

(a) The aircraft passenger door must be closed.

(b) The airbridge canopy and autoleveller must be retracted.

(c) The airbridge safety barrier should be erected.

(d) An apron drive bridge should be withdrawn and the drive wheels placed in the parking box provided.

(e) A rail drive bridge should be fully retracted.

(f) A check should be made that there are no vehicles or equipment obstructing the movement of the airbridge before it is moved

See Model Safety Instruction – AIRCRAFT STAND ENTRY GUIDANCE – at Appendix B.

4 SELF MANOEUVRE OF AIRCRAFT ON THE APRON

4.1 Stand Configurations

4.1.1 Self-manoeuvring is a procedure whereby an aircraft enters an apron, parks and subsequently departs, all under its own power. The principal methods of stand configuration are angled nose-in, angled nose-out and parallel-parking; each method involves the adjacent apron area in being subjected to high levels of engine blast, noise and fumes at some stage of an aircraft movement. Taxi-through stands can also be used for self- manoeuvring and the blast effects are relatively less, but opportunities for this layout are generally few.

4.1.2 Self-manoeuvring operations give a saving on aircraft tugs and ground crews but the layout of stands requires approximately double the apron area of conventional nose-in push-back operations. Due to the relatively high levels of engine power likely to be used for self-manoeuvring, there is an increased potential safety threat to buildings, installations, vehicles, equipment and personnel which must be controlled and managed.

4.1.3 Before deciding to adopt self-manoeuvring operations airports should consider other methods of aircraft handling. Self-manoeuvring on open, unmarked aprons should be subject to special procedures and a marshalling service should be available at all times on aircraft arrival. The airport authority should determine which combination of aircraft stands and conditions require a marshalling service on departure.

4.2 Safety Considerations

Where self-manoeuvring is employed airport authorities should ensure that the following arrangements and requirements are met:

- Stand entry routes, parking positions and departure routes should be marked with standard paint markings, in accordance with the aerodrome design manual.
- Buildings and installations adjacent to self-manoeuvring stands should be constructed to withstand the engine blast or be protected by blast screening.
- Vehicles and equipment should not be placed in a position where they can be affected by blast; equipment parking areas should be protected by blast screens or located remote from the stands.
- Passenger areas and apron staff working areas should be protected by blast screens. Passengers should not be subjected to blast, excessive noise or fumes.
- Safety instructions should be issued, specifying the maximum aircraft sizes to be permitted on individual stands so as to ensure that the prescribed safe clearances are maintained. Pilots should also be required to exercise caution and use the minimum engine power settings needed to complete a satisfactory manoeuvre.
- Self-manoeuvring stands should be inspected regularly and swept to reduce the risk of ingested or 'projected' FOD.

5 ENGINE HAZARDS

5.1 There is a clear operational need for the running of aircraft engines on apron areas. The associated safety hazards caused by exhaust blast, vibration, fumes, turning propellers and rotors and the intake suction of jet engines are well recognised. The principal threats are of personal injury, damage to vehicles ,equipment and structures, damage to other aircraft and, in the case of intake ingestion, also damage to the engine. As part of the safety management system, airport authorities should ensure that rules and procedures for safe engine running on the aerodrome are promulgated and understood by flight crews and handling staff.

5.2 Blast, Vibration, Noise and Fumes

5.2.1 Even at idling power the blast effects, vibration and fumes from small engines can be significant. As engines and power settings go up the scale the potential for personal injury and damage is great. The amount of fumes produced is directly related to the engine running time and the power settings used. Engine running on the apron and adjacent taxiway areas should be limited to the minimum necessary to meet aircraft operating needs. In formulating safety rules the issues detailed in the following paragraphs should be considered.

5.2.2 *General*

(a) Vehicles and personnel should not pass behind running engines. Staff must not approach running engines unless it is part of their job function, in which case a risk assessment of the operation is required to ensure a safe working practice.

(b) Drivers and pedestrians should be vigilant at all times on the apron, the indication to handling staff that aircraft engines are running, or are about to be started, is the illumination of the aircraft's anti-collision beacon(s). The presence

of blast and engine noise may not be immediately obvious to a driver in a vehicle or a person wearing ear defenders.

(c) Where possible blast screens should be provided to protect buildings, installations and vehicle and staff areas that are vulnerable to blast.

(d) When contractors sites using temporary buildings are placed on the apron, due regard should be given to building design and protection to minimise the effects of blast, vibration, noise and fumes for the occupants.

5.2.3 *Engine Management on Aircraft Arrival*

(a) When turning on to a stand, it is desirable that flight crews use the minimum power needed to carry out a normal arrival manoeuvre. Where possible the aircraft should be kept moving to avoid the need to apply 'break away' power to continue the approach to the stand. This is particularly important in cul-de-sac locations.

(b) Flight crews should be reminded of the need to avoid the use of high power settings on live engines when others are shut down.

(c) Engines should not be exercised for any purposes when the arriving aircraft is on stand, unless specifically cleared by the airport authority.

(d) The aircraft anti-collision beacon(s) must remain on until engines have run down or propellers/rotors have stopped rotating.

5.2.4 *Engine Management on Aircraft Departure*

(a) The aircraft anti-collision beacon(s) must be switched on before an engine is started.

(b) A trained member of airline or handling staff should ensure that the area behind the aircraft and the zone immediately in front of the engine intakes are clear of personnel, vehicles and equipment before engine start.

(c) The number of engines started before push-back commences should be the minimum to meet technical and passenger- service needs.

(d) During start up and push-back, engine power settings should not normally exceed ground idle.

(e) Wide body aircraft should not normally be permitted to start more than one engine until the aircraft is aligned with the centreline of the taxiway/taxilane.

(f) Aircraft leaving the inner stands of a cul-de-sac should be towed forward to a safe distance from the blast screen before the tug and towbar are disconnected. This position should be marked on the taxiway centreline for guidance of the tug-crew.

(g) Three-engined aircraft should not start the top engine until the aircraft has been aligned with the taxiway and is at a safe distance from buildings/blast screens. This position should be marked on the taxiway centreline for the guidance of the tug crew.

5.2.5 *Engine Test Running*

Engine runs and check starts should be controlled and only carried out with the prior approval of the airport authority who should specify the conditions to be applied, for example:

- Engine runs should be carried out on agreed, selected and prepared remote areas, preferably equipped with engine baffles/de-tuners.
- Engine runs approved on stands in regular use in apron areas should be limited to check starts and idling power only.
- Engine runs must not be permitted in cul-de-sacs or, for example, in areas where the jet efflux would impinge on stands, equipment areas or works areas.
- Where engine running is to be approved on the apron, a remote area should be chosen where the jet-blast will not effect other apron areas and busy taxiways.
- Where necessary, engine runs should be safeguarded by Airfield Operations staff who should arrange for any rear of stand roads to be closed and, if needed, sections of taxiway.
- The area behind and adjacent to the cone of the blast should be clear of equipment and the ground must be firm and without loose tarmac, stones or other material.

5.2.6 *Fumes and Noise*

In approving engine running or self manoeuvring on the apron the following should be taken into account:

(a) The concentration of fumes present in an airport area is in direct relation to the time engines are run, the type of engine and power settings used and the strength and direction of the surface wind.

(b) To prevent an unacceptable noise nuisance and build-up of fumes, the running of engines in the direct vicinity of buildings, workplaces and congregations of staff or passengers should not be approved.

(c) Where workplaces, such as cargo-sheds and engineering facilities, have to open directly on to stand areas, a specific risk assessment is required to determine how best to operate all the facilities safely, in respect of noise and fumes.

5.2.7 Airport authorities should develop policies and procedures to minimise the effects of engine noise, vibration and fumes on their local population. See Part 1.

5.3 Suction – Ingestion

5.3.1 (a) The intake suction of jet engines is a hazard, even at idling power, and the flow characteristics of air into an engine are such that items can be picked up from in front of, from below, and from the sides of the intake. Even small items ingested can damage the engine, but the larger engines are quite capable of ingesting large objects from several metres away with catastrophic effect.

(b) The extent of the danger zone depends on the size of the engine, the mounting height and the power setting. Managers of aircraft handling staff should calculate and promulgate to their staff the safe distances for operating around the types of aircraft they operate. DO YOU KNOW THE SAFE DISTANCES AROUND YOUR AIRCRAFT? See diagram at para 5.7.

(c) Entry into the safety zone in front of a jet engine entails the risk of being sucked in with almost invariably fatal results.

5.4 Foreign Object Damage

5.4.1 The terms 'foreign object damage' and 'foreign object debris', both abbreviated to FOD, are broadly known. FOD is a potential source of catastrophic damage to aircraft – particularly engines. As part of the safety management system, airport authorities should include instructions, services, facilities and initiatives to combat the risks arising from FOD and to educate all apron users on the associated hazards and requirements.

5.4.2 Airport authorities must ensure that there are programmes of regular apron sweeping, cleaning and inspection, including rapid reaction to fuel and other liquid and chemical spillages. They should also provide facilities for the disposal of solid and liquid aircraft waste and FOD protection. They should pay particular attention to such prime FOD generators as contractors' areas and baggage facilities.

5.4.3 Adequate facilities should be provided for the convenient disposal by handling staff of all engineering and service waste generated by aircraft turn-round activities. Weather proof containers should also be provided for the storage of winter grit and any absorbent materials used for containing small spillages of fuel and oils.

5.4.4 All vehicles and equipment used on the aprons should be maintained in a clean and serviceable condition, not only for reasons of safe vehicle operation but also to minimise the leaking of fluids and the depositing of FOD from these vehicles. See Part 4, Appendix C – Models.

5.4.5 Rules and arrangements should be in place for the removal of hazards from the apron, such as abandoned vehicles and equipment.

5.5 Propellers

5.5.1 Airport authorities should issue instructions to safeguard apron operations around propeller driven aircraft. Apron staff must be alert to the dangers of running propellers and should be stimulated by suitable awareness campaigns. There are relatively fewer propeller driven passenger aircraft currently in service and the precautions to be observed are less familiar to ramp staff, particularly staff of airlines which themselves offer no propeller driven services. Authorities should also ensure that the safeguarding of 'propeller areas' is included in airline operating procedures.

5.5.2 Airport authorities should provide suitable apron layouts and facilities that provide proper clearances for the operation of propeller aircraft types, with particular emphasis on ground clearance for propeller tips and the proximity of airbridges and other ramp equipment when the aircraft is at, or approaching, its parking position.

5.5.3 Passengers should not be allowed to walk on the apron when propellers are turning. Where it is operationally essential to have the propellers turning, passengers must be effectively controlled.

5.6 Rotors

5.6.1 Helicopter operations, particularly those of large helicopters, should be segregated from fixed-wing apron operations where possible. In addition to the provision of standard clearances for rotors in the apron layout, due regard should be given to the other characteristics of rotary operations, including:

(a) The heavy downdraught produced by helicopter movements.

(b) The vulnerability of helicopters to jet blast, strong winds and rotor downwash from other helicopters.

(c) The risk of reduced ground clearance caused by the drooping of the rotor (blade sailing) as it runs down following engine shut down or drive disconnection.

(d) The ease of approach to the chosen helicopter stands in hover-taxi mode and the least interference from/for taxiing fixed wing aircraft.

(e) The risks associated with tail rotors. See 5.5 above.

(f) The effect of wake vortex from ground taxi.

5.6.2 Dependent on aircraft type characteristics, procedures should include arrangements whereby:

(a) Helicopter arrivals are marshalled, unless the helicopter apron is remote and configured for self-manoeuvring. Marshalling assistance/safeguarding may also be required for departure.

(b) Ideally passengers should not be allowed to walk on the apron when rotors are turning. Where it is operationally essential to keep rotors running passengers must be effectively controlled.

(c) Staff, vehicles and ground equipment should remain well clear of the rotor disc until it has come to rest. If as above, running the rotors is essential, handling staff must be trained accordingly.

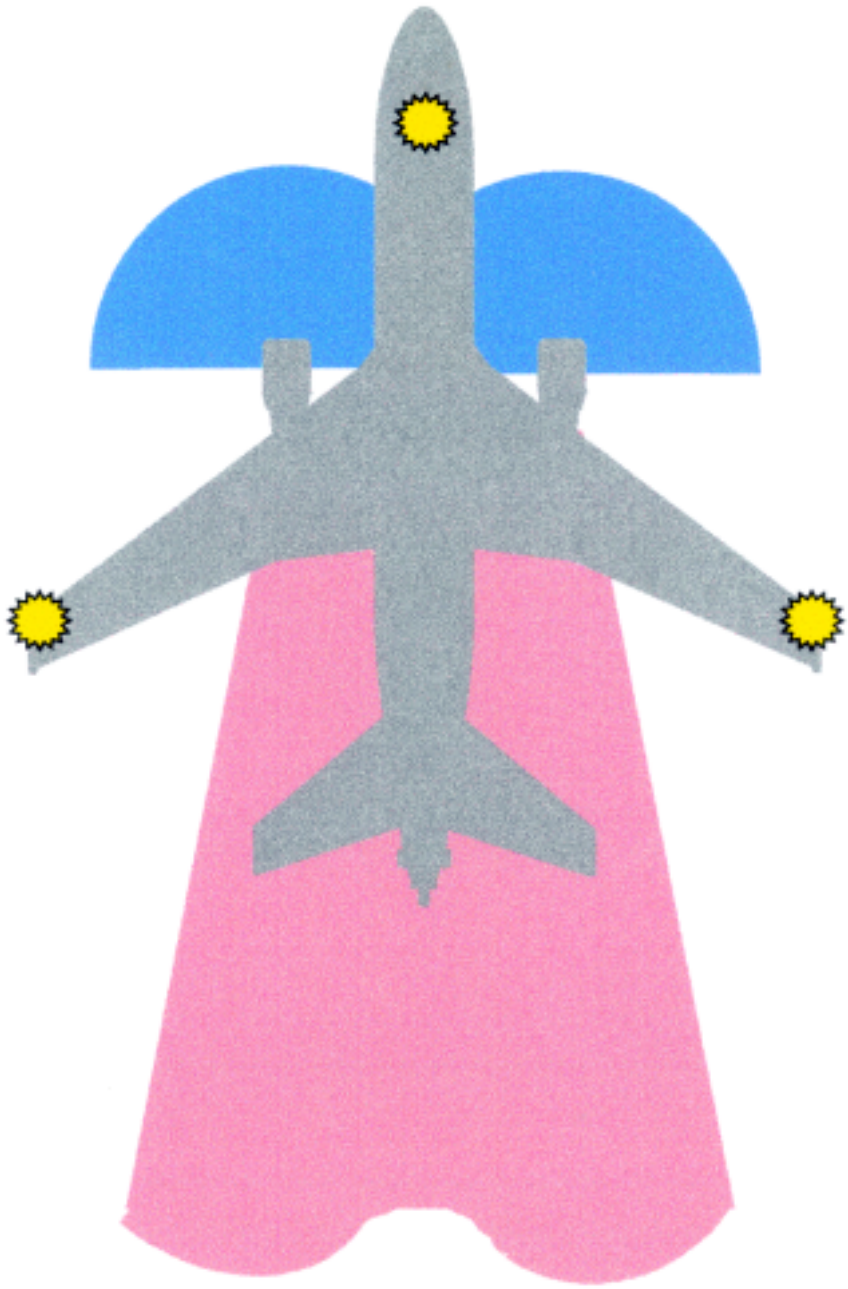
(d) Suitable signs should be provided to warn drivers and apron staff that they are approaching an area where helicopter operations are handled. All airside drivers and handling staff should be briefed to maintain a good look-out and also should be 'trained' to look upwards as well as horizontally to detect and give way to helicopter movements.

See Model Safety Instruction – AIRCRAFT BLAST AND FUMES – ARRIVAL, ENGINE START AND PUSH-BACK at Appendix C.

See Model Safety Instruction – AIRCRAFT ENGINE GROUND RUNS AND THE USE OF AUXILIARY POWER UNITS at Appendix D.

See the Model Safety Instruction – FOREIGN OBJECTS ON THE APRON AND THE REMOVAL OF HAZARDS at Appendix E.

5.7 Aircraft Engine Danger Zones



6 AIRCRAFT DEPARTURE

6.1 Aircraft departure is a critical phase of any flight, with loaded aircraft operating at heavy all-up-weights. Notwithstanding the pressures that often call for expeditious movement to meet schedules, clearances and 'slot' allocations, the safe management of departure procedures is paramount. For the purposes of this section the departure phase is considered to be from the time the aircraft starts an engine, or push-back movement starts if earlier, to the point where taxi clearance is issued by ATC. Guidance covering the various methods of aircraft departure is given in the following paragraphs.

6.2 Push-back Procedures

6.2.1 Aircraft push-back operations have a high potential for accidents involving personal injury/fatalities for ground crews and damage to aircraft, vehicles and equipment. As part of their safety management system, airport authorities should establish and promulgate general rules and requirements for the safe conduct of push-back operations. The development of detailed procedures, within the guidelines issued, may remain the responsibility of airline operators/handling agents. Airport authorities should maintain safety management arrangements to audit compliance with push-back requirements. When considering rules for push-backs the following should be taken into account:

(a) Detailed, written operating procedures should be produced by airline operators/handling agents for use by their staff.

(b) All push-back crew members should be qualified to drive aircraft tugs in all weather conditions. They should be trained in these procedures and certificated as competent by a training officer, nominated and named by the airline management. Push back crews should be thoroughly familiar with ATC procedures and trained in RT.

(c) Push-back supervisors should be nominated, trained and certificated as competent, as in (b) above.

(d) The supervisor should be in speech contact with the flight deck crew throughout the push-back.

(e) Where risk assessment has shown it to be advisable, 'tail look-outs' and/or 'wing-walkers' should be used to safeguard the rearward movement of the aircraft and prevent collisions with other aircraft, vehicles or personnel.

(f) All push-back crew members should wear high visibility garments in compliance with current standards.

(g) In the case of a departing aircraft being pushed back from its stand, the pilot of the aircraft will obtain approval to push back from ATC and pass this information to the tug driver. No RT contact between the tug driver and ATC is required.

(h) The airport authority should arrange for temporary changes, limitations and requirements to be published by NOTAM and also for prior notification to operators by local means.

6.2.2 *'Dead' aircraft handling*

In addition to the above considerations, the handling staff pushing back a dead aircraft for towing will need to consider the following:

- A trained staff member will be required to occupy the flight deck to control the brakes, maintain radio contact between tug and ATC and control the aircraft's anti-collision warning lights.
- As soon as a tug is assigned a task associated with the movement of an aircraft on any part of the manoeuvring area the tug driver must establish RT contact with ATC and obtain a specific ATC clearance before entering the manoeuvring area.
- For safety reasons it is important that the number of persons on board the aircraft (POB) are known for local ground movements. Companies involved with ground movements should adopt the following procedures.
  - (a) Before all ground movements tug drivers are to ascertain the POB.
  - (b) In the event of an incident involving the towed aircraft the POB should be made known to the Airfield Operations and Fire Section staff in attendance.
- When an aircraft is being towed during the hours of darkness or low visibility, it must display those lights which would be required when flying, i.e. navigation lights and anti-collision beacon.
- On completion of the task the tug driver is to advise ATC that the tug has vacated the manoeuvring area.
- During Low Visibility Procedures (LVP) it is essential that all vehicles operating on the airfield operate in accordance with the safety requirements set out in LVPs and exercise extreme caution particularly when operating on the manoeuvring area.

6.3 Power-back procedures (Reversing under Power)

6.3.1 Powering back an aircraft is inherently less directionally accurate than push-back or powering forward: there may also be an increase in noise and blast effect. Accordingly, the use of this technique should be limited to those aircraft types authorised in the aircraft's flight manual to reverse under power and for which procedures can be agreed which do not adversely effect apron safety in respect of engine noise, vibration and blast effects.

6.3.2 Before approving power-backs the airport authority should take into consideration aircraft characteristics, apron layout/stand density, the stand clearances available and any gradients involved on stands or taxiways.

6.3.3 Before approval is issued to an airline, for a particular aircraft type, the aerodrome authority should satisfy itself that the intended operation will be safe and will not give rise to unacceptable levels of noise, vibration, blast or fumes on the adjacent apron areas. The following minimum requirements are recommended:

(a) The procedures are authorized in the aircraft manufacturer's manual.

(b) The procedures to be used are incorporated in the airline's operations manual.

(c) Pilots are trained and experienced in power-back operations.

(d) The aircraft is directed by a trained handling agent marshaller using agreed standard power-back marshalling signals.

(e) Wing walkers are employed to safeguard the rearward movement of the aircraft, particularly wing tip clearances, to prevent collisions with other aircraft or vehicles or personnel.

(f) A trial is observed of a live power-back using the engine settings, aircraft weight and procedure intended for operational use.

6.3.4 The airport authority should assess the effects of noise, vibration, blast and fumes, observed during the trial, in order to decide the suitability of the procedure demonstrated. It is not possible to state here finite limits of noise, blast over-pressures and fumes to suit all locations and all aircraft types. Airport authorities should decide the local limitations to be met.

6.3.5 Power-back should not be permitted when passengers are being loaded or unloaded on adjacent stands unless the airport authority has specifically considered and assessed the associated risk and decided that it is non-hazardous.

6.4 Multiple push-back procedures

6.4.1 Multiple aircraft push-backs from a run of stands, or in a cul-de-sac, are an accepted method of achieving a faster push-back and departure rate, but they must be conducted with due regard to the additional health and safety requirements that arise for ground crews and for overall aircraft safety.

6.4.2 Approval for start of 'push-back' normally rests with ATC and if there are apron areas of an aerodrome where the ground movement controller does not have a full view of the aircraft, then any procedures must take this into account.

6.4.3 The principal safety threats in push-back operations where aircraft end up positioned nose to tail are:

(a) Aircraft positioned too close to each other when the push-back phase is completed.

(b) Excessive levels of engine blast and fumes for push-back crews positioned behind another aircraft that has started or is starting its engines.

6.4.4 In order to avoid excessive blast and fumes, the safe separation distance behind an aircraft will vary according to aircraft type and engine fit. It would be impractical for push-back crews or ATC staff to measure exact distance each time, therefore, a practical rule of thumb should be established to permit ATC to manage and sequence a safe multiple push-back operation. Experience gained from other airports will be useful in deciding what practical separation distances can be used with safety, but in any event safe separation distances should be established through a risk assessment.

6.4.5 It should be implicit in the acceptance of instructions from ATC that the agreed safety distance criteria will be met by pilots. The decision to accept a multiple push back remains with an aircraft commander as does the responsibility to inform the push-back crew. Clearly there is a need for prior planning, co-ordination and information exchange between the aerodrome authority, the operators and ATC before such manoeuvres are adopted as standard practice as any aerodrome.

See the Model Safety Instruction – AIRCRAFT PUSH-BACK PROCEDURES at Appendix F.

See the Model Safety Instruction – POWER-BACK PROCEDURES at Appendix G.

7 OTHER SAFETY CONSIDERATIONS

7.1 Signs Markings and Guidance

7.1.1 A proliferation of signs and surface paint markings on aprons and airside roads can lead to confusion and, possibly, disregard of the important information and guidance being given. The multitude of signs often found in airside areas can lead to the condition of 'sign blindness' where important sign messages are missed, particularly if they do not conform to recognised standards.

7.1.2 Aerodrome authorities should arrange for a single agency, such as the Airfield Safety or Operations Officer to establish standards and to co-ordinate and control airside signs and ground markings. Regular audits should be undertaken to remove redundant markings and signs and to ensure compliance with the promulgated standards.

7.1.3 Signs should be clear in format, clear in the message they convey, in clean condition and positioned to give the clearest indication of the intended information. Experience shows that airside users become familiar with a recognised standard of signs and markings and tend to react correctly to their information.

7.1.4 A standard for airside signs should be established and promulgated for airport-wide information. The design of signs will, of course, depend on the need for that sign. It should comply with the following standards and it is likely it would be selected in the following order of precedence:

(a) Where possible signs should conform to CAP 168. Chapter 7.

(b) Where CAP 168 cannot offer a suitable sign, the standard signs published in association with the Road Traffic Act should be consulted to identify an appropriate design.

(c) Where appropriate, signs should conform to standard health and safety signs, such as BS 5378:1980.

(d) The use of purpose designed special signs should only be considered when the standard possibilities have proved unsuitable.

7.1.5 Signs should be clearly readable at night, particularly warning signs such as vehicle height restrictions and those marking the approaches to the Manoeuvring Area. In remote locations where area lighting is not provided, point lighting or retroflective signs should be used.

7.1.6 Ground markings on the movement area should conform to the standards contained in CAP 168.

- Yellow markings for the guidance of aircraft.

- White markings for the guidance of vehicles, equipment and staff.
- Airside road markings should, where possible, conform with, or be based upon, the standard markings published in association with the Road Traffic Act.

7.1.7 Fixed obstructions , such as corners of buildings, air bridges and airside furniture, including lighting pylons, should be painted in a colour(s) that make them prominent by day, by night and in reduced visibility.

7.2 Glare and confusing Lights

7.2.1 During darkness and periods of low visibility apron areas must be provided with a good standard of lighting of sufficient coverage and brilliancy to enable pilots and ramp staff to operate safely and effectively. The levels of luminance on aircraft stands must comply with the standards promulgated in CAP 168. Care must be exercised to ensure that no lighting installation can give distracting or confusing signals to pilots or cause dazzle or glare for any operators on the airfield, including ATC staff providing visual control to aircraft. Airport authorities should introduce arrangements to control and co-ordinate the provision/installation of airside lighting systems.

7.2.2 The introduction of new non-regulatory* lighting installations should be subject to prior safeguarding approval by the CAA and large systems should always be subject to an operational trial, including where judged necessary a flight trial, to confirm the best adjustments for the luminaires. Apron lighting should be regularly checked for damage and disturbance of the settings of the luminaires.

7.2.3 Area lighting is normally mounted on pylons or gantries and should be subject to the following:

(a) The mounting height, brilliance and mounting angles of the luminaires should be set to achieve the illuminance and fall of light required without causing dazzle to pilots, drivers and ATC staff.

(b) The layout of mounting pylons should be such that overlapping cover is provided, that does not give rise to areas of deep shadow, such as on the 'lee side' of a large aircraft.

(c) Floodlighting, including mobile equipment, in contractors' works areas should be strictly controlled and subject to regular checks to ensure that glare/dazzle are eliminated.

7.2.4 To avoid dazzle, vehicles on the aprons must use dipped headlights whenever vehicle lights are required.

7.2.5 Any lighting used on the apron must not conflict with aircraft guidance systems and if coloured lights are used they must not be capable of confusion with colour-coded aviation lights.

7.2.6 Illuminated stand designator signs should, where possible, be prominently placed at a standard position at the head of stand to give unambiguous indication to pilots of stand location/ identification,

* 'Non regulatory' means lighting which falls outside of the regulations governing aerodrome ground lighting (AGL) set out in CAP 168.

7.2.7 Where the location of lighting for airport landside sites, is approved but visible from the airfield, the levels of brilliance and direction of any light display should be such that there is no glare or dazzle to confuse or distract pilots or ATC staff. See also 7.2.8.

7.2.8 Lighting of non-airport sites in the vicinity of 'safeguarded' aerodromes is subject to planning permission and 'safeguarding' by the CAA. It is in the interest of all aerodrome managers to ensure that local developments meet the requirements of 7.2.7. (See also Air Navigation (No. 2) Order 1995 Article 99 Dangerous Lights.)

7.2.9 Traffic lights controlling crossings of taxiways/taxilanes should be clearly identifiable to vehicle drivers but must be shielded from the vision of pilots.

7.3 Winter Operations

7.3.1 Managers of aerodromes which continue to operate during severe winter conditions of snow and ice are recommended to agree and publish a comprehensive snow clearance plan. The equipment and manpower will be dictated by the scope of the plan itself, but should be sufficiently flexible to deal with the full range of extremes that can be expected locally.

7.3.2 During winter conditions additional precautions and arrangements are required, by all those involved with airside operations. Before the winter season starts, safety instructions should be issued to highlight the hazards of winter operations and detail the measures to be taken to mitigate the effects on the apron. It is good practice to arrange briefings for the managers and staff of user airlines/companies on working and operating in winter conditions.

7.3.3 The aerodrome authority should establish that they, airlines and handling agents have arrangements in place for the following:

(a) The gritting and de-icing of aprons and airside roads, with particular attention to taxilanes, stands and push-back tug areas.

(b) The clearance and de-icing of critical areas peripheral to stands such as loading bridge movement areas, bridge steps and drive wheels, passenger routes (including external steps and ramps), FEGP units and other fixed service equipment.

(c) Where an aircraft is occupying a stand, the use of sprays or other means to clear and de-ice aircraft wheels and wheel runs together with the access routes for loading baggage, freight and catering.

(d) The provision and storage of grit on stands for use by handling staff.

(e) When meteorological frost/snow warnings are received and when freezing conditions are expected or observed, warnings should be transmitted to all apron operators and staff by the best local means.

(f) Additional apron inspections should be introduced to detect freezing hazards.

(g) Where possible apron areas should be set aside for the parking of aircraft de-icing rigs and the storage of bulk de-icing agents.

NOTE: References to 'Grit' and 'De-icing agents' in connection with areas used by aircraft mean materials produced to an approved specification.

7.3.4 Airlines and operators should be required to take special care to avoid spillages of water on aprons during freezing conditions and the washing of vehicles/equipment and the flushing of tanks should be prohibited in all airside areas.

7.3.5 Airlines and operators should be urged to undertake self-help measures to clear and de-ice equipment and vehicle parking areas and should be required to remove their equipment from such areas to enable clearance/de-icing to be completed. Handlers should be required to tow-off static aircraft when requested, to enable stand clearance/de-icing to be completed.

7.4 Adverse Weather Conditions

Besides snow and ice, other adverse weather conditions affect the safety of aircraft operations on aprons, principally strong surface winds and low visibility conditions. As part of the safety management system, aerodrome authorities should issue information about the precautions to be taken in anticipation of these conditions and with emphasis on the safety requirements for apron operations.

7.5 Strong Winds

7.5.1 When meteorological warnings of strong winds are received, they should be promptly relayed to airlines and operators.

7.5.2 When strong wind conditions are experienced the first problems encountered are of light FOD being carried across the airfield, causing engine ingestion threats to aircraft on stands, taxiways and runways. Plastic bags and sheeting are particular problems.

7.5.3 As wind speeds rise, baggage containers, unsecured equipment, large debris, mostly from the aprons, can be blown across the Movement Area causing a damage hazard to aircraft in all areas. There is also a risk of personal injury and damage to vehicles and equipment by 'flying' debris. The principal requirements and precautions are included in Appendix J.

7.5.4 It is not always feasible, or necessary, to position the larger aircraft into wind at large airports. Where there is a requirement for aircraft to be positioned into wind and/or picketed, this should be the responsibility of the airline manager, agent or owner concerned. Airport authorities may assist by the allocation of suitable stands and other airfield areas for this purpose.

7.5.5 As wind speeds rise, there is a requirement for airline manager, agent or owner concerned to ensure that wind-milling propellers are feathered and/or secured.

7.6 Low Visibility Procedures (LVP)

7.6.1 Aerodrome authorities will have in place comprehensive arrangements and rules to safeguard low visibility operations on the Manoeuvring Area and these issues are not fully discussed here.

7.6.2 In most airfield layouts, aprons border directly on to the taxiway system, therefore, when LVPs are in force, there is an impact upon apron operations and there is a requirement for ramp staff to be aware of the implications for taxiway operations and to comply with any requirements and limitations that are notified.

7.6.3 Visibilities which might qualify as low in aircraft operational terms might be considered reasonable by some aerodrome users. When visibility is reduced however, staff must be advised of the additional safety requirements to maintain safe operations.

7.6.4 The principal requirements for apron operations in LVPs are contained in Appendix K.

7.7 Fault Reporting

7.7.1 Airport authorities should promulgate and maintain comprehensive fault reporting procedures for all apron equipment and installations provided by the airport. Clear instructions should be issued and repeated by notice at main installation sites.

7.7.2 For staff of airlines or operators, simple 'one-shot' fault reporting is best. Faults on vital operational equipment, or facilities, that could affect aircraft safety, such as airbridges and SEG, should be reported to a single agency. An operations centre or safety unit is best. By this means the appropriate and immediate safety decisions can be made/actioned and at the same time a prompt engineering response can be initiated.

7.7.3 Details of all reported faults and their rectification should be recorded for management audit purposes.

7.7.4 For faults where a hazard to aircraft existed or was thought possible, consideration should be given to filing an MOR. See Mandatory Occurrence Reporting procedures, Part 4.

7.8 Movement Area Inspections

7.8.1 The requirement for inspection and maintenance of airfield facilities is implicit in the aerodrome licensing process and the associated legislation. The Aerodrome Manual must contain the requirements and accountabilities for the inspection and auditing of all the safety systems airside on a systematic basis. The results to be recorded/reported and fed back into the safety management system.

7.8.2 Airport authorities should maintain inspection schedules for all apron equipment and facilities provided by the authority. The results of these inspections should be recorded. Serviceability/ availability records should be maintained on the principal systems for audit and management purposes.

See Model Safety Instruction – WINTER OPERATIONS AND APRON HAZARDS – at Appendix H.

See Model Safety Instruction – STRONG WINDS at Appendix J.

See Model Safety Instruction – APRON OPERATIONS IN LOW VISIBILITY CONDITIONS at Appendix K.

Appendix A – Passenger Airbridges

MANPOOL AIRPORT

MODEL SAFETY INSTRUCTION No 1/9-

PASSENGER AIRBRIDGES

1 INTRODUCTION

1.1 All pier served stands at Manpool are equipped with passenger airbridges. There are two specific types of bridge in use, referred to as either rail-drive or apron-drive airbridges.

2 PASSENGER AIRBRIDGE SERVICE

2.1 Use of the airbridge by an aircraft operator, owner or handling agent, shall constitute prior acceptance of the conditions set out hereunder.

2.2 Manpool Airport will carry out its schedule of engineering preventative maintenance during the quiet hours.

2.3 Manpool Airport will carry out an operational daily inspection of all airbridges during the quiet hours.

2.4 Manpool Airport will maintain and clean the airbridges and is responsible for the maintenance of airbridge operating standards.

2.5 Save as otherwise expressly provided in this instruction the conditions of use of Manpool Airport, as promulgated, shall apply to the use and operation of airbridges.

3 AIRBRIDGE OPERATOR LICENSING

3.1 Airbridges may be operated only by persons holding an Airbridge Operator's Licence, endorsed for the appropriate type of airbridge. Licences are restricted to those persons who operate airbridges regularly as an essential part of their job function. Licences will not normally be issued to employees of airlines who have nominated a handling agent to perform the dispatching function.

3.2 The issue of a licence is subject to a satisfactory course of training, followed by an airbridge driving test, where candidates must be able to demonstrate a high standard of safety proficiency in the operation of the airbridge.

3.3 Tests are carried out by a member of the Manpool Airport Airfield Safety Department. Applications for tests should be made by airline airbridge training officers approved by Manpool Airport, direct to the Airfield Safety Department, telephone 1234-5678 during normal office hours.

3.4 Licences must be re-validated every 2 years by the nominated airbridge training officer. Manpool Airport may also require a licence holder to be submitted for a re-validation check on request. Operators must comply with any other requirements or conditions which may be determined from time to time by Manpool Airport.

3.5 The airbridge licence remains the property of Manpool Airport. In circumstances where, in the opinion of Manpool Airport, the operator has acted negligently or recklessly in the operation of an airbridge, Manpool Airport reserves the right to suspend unconditionally and immediately the licence for a specified period pending retraining or to withdraw the licence altogether.

4 AIRBRIDGE OPERATOR'S RESPONSIBILITIES

4.1 It is essential that a careful check is made to ensure that no vehicles or equipment are parked beneath, or in the manoeuvring area of, the airbridge. Additionally the bridge must be free of debris and correctly parked before an aircraft enters the stand. This is particularly necessary on stands equipped with apron-drive bridges as safe clearance from aircraft engines and wings may not otherwise be maintained. If bridges are not fully retracted for any reason, aircraft must be stopped short (see para.8 below).

4.1.1 Apron-drive bridges are fitted with an audible warning and flashing lights which operate whenever the speed control is operated and the bridge is moving.

4.1.2 In the interests of safety, whenever an apron-drive bridge is moved, a 'look out' should be positioned on the apron to assist the bridge operator. This precaution is particularly necessary on bridges which are not fitted with CCTV, or where the CCTV is unserviceable.

4.1.3 All bridges are fitted with an interlocked safety barrier and will not move unless the barrier is correctly positioned across the mouth of the bridge.

4.1.4 All airbridges are fitted with a safety canopy and an autoleveller device. The canopy provides fire and weather protection for bridge users and the autoleveller compensates for trim changes experienced during aircraft refuelling and the loading and unloading of passengers.

4.1.5 The airbridge operator must ensure that the autoleveller is engaged before loading or unloading the aircraft. Whenever the airbridge is docked to the aircraft the autoleveller must remain engaged.

4.2 In the event of the loading or unloading of very heavy cargo, the airbridge must be withdrawn from the aircraft as the instantaneous trim changes may be beyond the capability of the autoleveller system.

4.3 Airbridges should not be left unattended when passengers are being embarked or disembarked. Should the bridge go out of limits while loading or unloading is taking place, the bridge is to be removed and repositioned.

4.4 When bridges are not being used for passenger loading or unloading they should be retracted into their parking box and closed down. Airlines and handlers are advised that whenever a bridge is docked to an aircraft a qualified airbridge operator should be in attendance, unless an approved and serviceable safety shoe device is employed.

4.5 Aircraft operators are reminded that they are responsible for the security of their aircraft and docked airbridges make aircraft vulnerable. To prevent unauthorised access via airbridges, airlines should either deploy personnel to control access to their aircraft or remove the airbridge from it.

4.6 Whenever an apron-drive bridge has been removed from an aircraft it must be parked in its parking box and closed down. Whenever a rail-drive has been similarly removed it should be fully retracted and closed down.

4.7 The aircraft passenger door is to remain closed until the airbridge has been correctly docked and must be closed before the bridges is retracted. (Note: Except for certain aircraft, with integral passenger steps, specifically authorised by notice by Manpool Airport Safety Department.)

5 OPERATION OF AIRBRIDGES

Rail-drive airbridges and apron-drive airbridges must be operated in accordance with the instructions contained in the Manpool Airport Standard Operating Procedures (SOPs) booklet which is issued to all licensed operators.

6 PARKING BOXES

Parking boxes are painted on the apron to indicate to all concerned with aircraft arrivals and departures the correct parking positions for the apron-drive airbridges. Both wheels of the bridge must be within the box whenever the bridge is in the parked position.

7 STAND ENTRY GUIDANCE (SEG)

All stands equipped with airbridges are provided with SEG. Details of these installations and the method of use are described in the Manpool Safety Instruction dealing with SEG.

8 STOP SHORT PROCEDURES

8.1 If an airbridge is unserviceable or cannot be fully retracted the stand must be withdrawn from use or, if practicable, allocated to aircraft types that can safely be stopped short of the airbridge for passenger steps to be used. The need to stop short will be indicated to flight crews by one of the following methods:

(a) An illuminated sign which flashes in red ‘STOP SHORT’.

(b) A STOP SHORT sign displayed on a rail-drive airbridge.

(c) By marshalling signals.

8.2 Full stop short procedures are described in the Manpool Safety Instruction dealing with SEG.

9 FAULT REPORTING

9.1 In the event of any malfunction/failure occurring to an airbridge, or of a bridge obstructing a stand Manpool Operations Centre (MOC) must be advised immediately, telephone 1234-5678 giving the stand number and brief details of the fault. MOC will alert Manpool Engineering Department(who should not be contacted directly) to attend and rectify the fault. MOC will also alert Airfield Operations who will decide any limitations necessary and provide a marshalling service.

9.2 If an airbridge fails when in contact with an aircraft MOC should be notified as in 9.1 above. The airbridge may be wound away from the aircraft using the emergency procedure detailed in The Airbridge SOPs Handbook, to permit a normal pushback to be carried out. Instructions for emergency wind back are also prominently displayed in airbridge cabs.

The STOP SHORT warnings must be displayed to prevent the next arriving aircraft colliding with the extended airbridge.

10 EMERGENCY STOP AND EMERGENCY BACK-OFF ACTION

(Instructions on emergency stop and emergency back-off procedure for your types of airbridge should be inserted here.)

11 ACCIDENT REPORTING PROCEDURE

It is the responsibility of the airbridge operator to report all accidents involving serious injury to personnel, damage to aircraft or the airbridge, in accordance with the procedure detailed in the current Airside Accident Safety Instruction. CAP 642 Part 4 Appendix D also refers.

12 GENERAL

Any questions concerning this instruction should be addressed to Manpool Airfield Operations Department, telephone 1234-5678.

Appendix B – Aircraft Stand Entry Guidance System

MANPOOL AIRPORT

MODEL SAFETY INSTRUCTION NO 2/9-

AIRCRAFT STAND ENTRY GUIDANCE SYSTEMS

1 INTRODUCTION

Most aircraft parking stands at Manpool are equipped with Stand Entry Guidance (SEG). When a stand is not equipped, or SEG is unserviceable or not calibrated for a particular type of aircraft, a marshalling service is provided.

2 SYSTEM

The Acme Visual Docking Equipment (AVDE) provides both directional and stopping guidance. The azimuth display is aligned for interpretation from the left hand cockpit seat. Details of the AVDE system and instructions for its use by pilots are contained in Annex A to this instruction.

3 RESPONSIBILITY FOR OPERATION OF SEG

3.1 The system is switched on by airline or handling staff. In the case of airbridge served stands, one set of AVDE control switches are mounted in a panel in the airbridge cab; a second set of switches are mounted in a conspicuously marked panel in a prominent position at the head of stand. Either set of switches will operate the equipment and on all pier served stands timer switches are used which automatically switch off the AVDE after 25 minutes. On non pier served stands a single set of switches is provided, mounted in a conspicuously marked panel at the head of stand: few of these stands have timer switches.

3.2 Airline or handling staff must ensure that the stand is unobstructed by vehicles or equipment and that the airbridge is retracted /correctly parked before the arrival of the aircraft and before switching on the SEG. Switching on the SEG signifies to the aircraft commander that these actions have been completed and it is safe for the aircraft to enter the stand.

3.3 On stands where timer units are not fitted, airline and handling staff must ensure that the SEG is switched off after the aircraft has been parked.

4 MARSHALLING SERVICE

4.1 A marshalling service is provided automatically on those stands not equipped with SEG or with known unserviceabilities. The marshalling service is also available on request to all airlines by calling the Manpool Airfield Safety Unit on telephone ext. 3456.

4.2 The Eastern apron at Manpool is an open apron for use by General Aviation (GA) aircraft. Also, a group of stands in the South Area are configured with Multiple Aircraft Ramp System (MARS) centrelines. All aircraft using MARS centrelines will be marshalled on stand and all aircraft using the open GA apron will be marshalled.

4.3 The Airfield Safety Unit should be called to assist if airline staff are in any doubt about safety.

4.4 During aircraft emergencies and at other times when the resources of the Airfield Safety Unit are fully committed, marshalling staff may not be able to attend before the aircraft arrives. Accordingly handling staff should give the flight deck crew assistance to stop short safely on the stand centreline and await the arrival of the marshallers.

4.5 When directing an aircraft with his/her attention firmly fixed on that aircraft, a marshaller is at risk from vehicles. Drivers must be alert to the presence of marshallers and always give way. On no account must personnel walk or drive between an inbound aircraft and a marshaller directing that aircraft.

5 AIRBRIDGE UNSERVICEABILITY

When an airbridge is out of service or cannot be fully retracted and/or parked in its safe position, the stand will be withdrawn from use or, if practicable, allocated to aircraft types that can safely marshalled on to a 'Stop short' position clear of the airbridge. The decision for a 'Stop short' operation may well affect other operations. See 6.2 below.

6 STOP SHORT PROCEDURE

6.1 The need to 'Stop Short' will be indicated to the flight crew by one of three methods:

(a) An electronic sign, mounted above the AVDE display which flashes in red – STOP SHORT. The switches for these signs are co-located with the SEG switches both in airbridge cabs and also at head of stand locations, the switch function is prominently marked.

(b) On stands equipped with rail drive bridges by a conspicuous painted 'STOP SHORT' sign mounted on the taxiway side of the airbridge cab.

(c) By marshalling signals.

6.2 It is essential that the Manpool Operations Centre and the Airfield Safety Unit are notified immediately if it is intended to stop an aircraft short. The Airfield Safety unit will assess the precise stop short capability of the stand for the aircraft type specified and provide marshalling assistance as necessary.

6.3 Whenever a 'STOP SHORT' sign is displayed, and in the absence of marshalling signals, pilots should enter the stand using the centreline for guidance and stop the aircraft before reaching the airbridge or any other obstacle. The stopping position should be as far forward as possible consistent with safety and the ability to serve the aircraft door(s) with steps. If the aircraft tail is not clear of the taxiway/taxilane ATC should be advised.

6.4 The 'STOP SHORT' will be removed by Manpool Engineers when they have repaired and retracted the airbridge.

7 EMERGENCY STOP PROCEDURE

7.1 The emergency stop facility is provided to enable an instant warning to be given to pilots that there is an immediate safety threat to their aircraft, or to personnel on the apron, and that the aircraft should be stopped immediately to avert the danger.

7.2 The need to make an emergency stop is indicated to the pilots by the illumination of a flashing red electronic EMERGENCY STOP sign which is positioned beside the AVDE display.

7.3 Two switch locations are provided for the emergency stop system. One gated switch is fitted in the airbridge cab co-located with the bridge controls; a second gated switch is located at a prominent and conspicuously marked position at the head of stand at apron level.

7.4 Any person (irrespective of employer or function) who perceives a safety threat should activate the system to tell the pilot to stop. The pilot should advise Air Traffic Control that an emergency stop on stand has been made. If a safety hazard still exists, Air Traffic Control should initiate a 'Local Standby' emergency response, in accordance with Manpool Emergency Orders. The Manpool Fire Service and the Airfield Safety Unit will then attend the incident and take any safety action required.

8 SEG SAFETY SUMMARY

Airline and handling staff receiving an arriving aircraft should:

(a) Arrive at the allocated stand in good time before the aircraft.

(b) Check that the airbridge is safely parked/retracted and that there is no other obstruction on the stand.

(c) Display 'STOP SHORT' if necessary. Report this event to the Manpool Operations Centre and the Airfield Safety Unit.

(d) Switch on the SEG when all is well and, for non-timer systems, switch it off again when the aircraft has come to rest.

(e) Summon marshalling assistance if there is any doubt about the safety of the stand.

9 MIRROR DOCKING GUIDANCE SYSTEM

9.1 Stands F3 and F5 are equipped with a mirror docking guidance system. Stand centreline stop markings are provided for all aircraft types that regularly use the stands. A description of the mirror system and the pilot's operating procedures are at Annex A to this Instruction.

9.2 The indication to pilots that the stand is safe for their use is a single mast-mounted green light located above the mirror. The associated switch control is on the base of the mast. Airline and handling staff must ensure that the stand is free from obstruction before switching on the green entry light.

10 GENERAL

Any questions relating to this safety instruction should be addressed to Manpool Airfield Operations Department, telephone 1234-5678.

ANNEXES:

A. AVDE System and Mirror System Descriptions and Operating Procedures.

(Note:- This fictitious Annex is not included with this model instruction).

Appendix C – Aircraft Blast and Fumes – Arrival, Engine Start and Push-Back

MANPOOL AIRPORT

MODEL SAFETY INSTRUCTION 3/9-

AIRCRAFT BLAST AND FUMES – ARRIVAL, ENGINE START AND PUSH-BACK

1 INTRODUCTION

1.1 This instruction covers the engine handling requirements and procedures to be used at Manpool and is also issued to remind all flight and ground crews of the hazards that may result from engine blast and fumes. These procedures are intended to promote safe aircraft movement without the risk of damage to buildings, aircraft or equipment and injury to staff/passengers in the apron areas.

1.2 There is a hazard from the blast created by all, engines, particularly jet engines. The risk is greatest in areas which cannot be protected by blast screening and from aircraft with high tail-mounted engines. Staff working behind blast screens, or in open buildings close to a stand, and passengers on the opposite side of an apron cul-de-sac can also experience unpleasant engine fumes.

2 ARRIVAL PROCEDURES

2.1 There is a particular risk of blast damage or injury when an arriving aircraft is turning on to the stand centreline. The risk is further increased if for any reason the aircraft stops, then applies the additional thrust required to 'break away' and continue the manoeuvre.

2.2 Commanders of aircraft are to keep all engines running (notwithstanding any fuel economy measures) in order to limit the need for high thrust levels. Ideally the aircraft should be kept moving to ensure that break away power is not required. Exceptions, specifying aircraft type and stand concerned are notified to Airlines concerned.

2.3 Engines must not be exercised for test reasons when the aircraft is on stand and engines should be shut down as soon as operationally practicable once the aircraft is parked.

2.4 Aircraft anti-collision beacon(s) must remain on until the engines have run down.

3 DEPARTURE PROCEDURE – ENGINE START

3.1 Flight deck crew and ground crew should be in verbal contact or standard hand signals must be used.

3.2 Before engines are started the aircraft anti-collision beacon(s) must be switched on.

3.3 Ground crews must ensure that the area immediately behind an aircraft, plus the zone immediately in front of the engine intakes, is clear of staff, passengers, vehicles and equipment before giving clearance for engine start. Additionally, before giving start clearance to the pilots of any wide body aircraft, ground crews must ensure that:

(a) No other aircraft is on or approaching the taxiway centreline, or about to push-back on to the centreline, in the area behind the aircraft awaiting start.

(b) Passengers are not boarding or disembarking via steps from an aircraft on an opposite stand.

3.4 Ground crews must notify pilots of any potential hazard that could be created by the starting of engines.

3.5 On wide-body aircraft and larger, a single engine start-up only is permitted on stands in cul-de-sacs. The remaining engines must not be started until the aircraft is pushed back and aligned with the taxiway/taxilane centreline.

3.6 The tail mounted engine of MD11, DC10 and L1011 aircraft is not to be started in a cul-de-sac until the aircraft is aligned with the taxiway/taxilane centreline and pulled forward until the rear of the aircraft is a minimum of 100 metres from the blast screen (a painted stop bar is provided in all cul-de-sacs to indicate the nosewheel position).

4 PUSH-BACK PROCEDURE – BLAST PRECAUTIONS

4.1 Ground crews must ensure that the area into which an aircraft is to be pushed is clear of staff, passengers, vehicles and equipment, before the push-back operation is started.

4.2 During all push-back manoeuvres aircraft engine settings should not exceed idle power.

4.3 Aircraft on the inner stands of a cul-de-sac must, after push-back, be pulled forward until the rear of the aircraft is a minimum of 100 metres from the blast screen before the aircraft tug and towbar are disconnected (a painted stop bar is provided in cul-de-sacs to indicate the nosewheel position).

4.4 All push-back manoeuvres are to end with the aircraft aligned with the taxiway/taxilane centreline.

5 TAXIING

Pilots must use the minimum power necessary to get/keep the aircraft moving, particularly when in the cul-de-sac aprons.

6 SAFETY IN THE VICINITY OF WORKS AREAS

Development and maintenance work in the Movement Area occasionally involves sections of the Area being totally withdrawn from use. At other times aircraft access has to be restricted due to the work in progress; notification is always given by the

issue of a Safety Instruction. These sections are always coned, barriered or fenced off and are marked at night with red obstruction lights along their perimeters. Pilots are to use minimum power when in the vicinity of these working areas and should never direct jet-blast towards the areas.

7 AIRCRAFT SELF MANOEUVRE

7.1 The aircraft stands at Manpool are designed for the nose-in parking of aircraft and for subsequent push-back by aircraft tug. The following exceptions may apply:

7.1.1 Permanent permission for propeller driven commuter type aircraft, to reverse off stands under their own power, can be given for operators/airlines whose procedures are approved. Such approval is under the provisions of the current Manpool Safety Instruction entitled – Aircraft Power-Back which should be consulted for details of the method of application. Only in exceptional circumstances will any other aircraft be permitted to reverse off a stand under its own power. Specific clearance must be obtained for each movement and pilots must comply with the clearance instructions. Applications should be made to the Airfield Safety Unit, telephone 1234-5678.

7.1.2 As a matter of routine Manpool may require some small and medium size aircraft to turn on selected stands where circumstances and stand dimensions permit. In this event aircraft will be marshalled into position.

7.1.3 Conversely, pilots who wish their aircraft to be turned on stand, for subsequent self manoeuvring on departure, must obtain specific clearance for each movement and must comply with the clearance instructions. A marshalling service will be provided. Applications should be made to the Airfield Safety Unit, telephone 1234-5678.

8 GENERAL

8.1 It is essential that the contents of this Instruction are given the widest circulation to pilots, engineering and other ground staffs concerned with the movement of aircraft.

8.2 Any questions relating to this Instruction should be addressed to the Manpool Airfield Operations Department, telephone 1234-5678.

Appendix D – Aircraft Engine Ground Runs and use of Auxiliary Power Units

MANPOOL AIRPORT

MODEL SAFETY INSTRUCTION NO 4/9-

AIRCRAFT ENGINE GROUND RUNS AND USE OF AUXILIARY POWER UNITS

1 INTRODUCTION

Manpool Airport is responsible for the safe ground running of aircraft engines on the aerodrome and the control of blast, fumes and ground noise. This instruction sets out the rules and procedures for aircraft engine ground runs and the use of aircraft auxiliary power units(APUs) and ground power units (GPUs).

2 DEFINITION

For the purpose of this Instruction , an engine ground run is defined as any engine start-up not associated with the planned aircraft departure.

3 APPROVAL

3.1 Permission for an engine ground run must be obtained in advance from the Manpool Airfield Safety Unit, telephone 1234-5678.

3.2 The following details must be provided when seeking permission to carry out an engine run:

Airline.
Aircraft type and registration.
Requested location for engine run.
Planned start time.
Expected duration.
Number of engines to be run simultaneously.
Level of engine power to be used.
Type of maintenance/check.
Why the engine run is required.

3.3 Any variation to the details given above must be the subject of a further clearance.

4 SAFETY

4.1 All personnel concerned with engine ground running must be fully conversant with these rules and with the following requirements, which must be complied with at all times

4.2 Aircraft Parked on Stands

4.2.1 On stands in cul-de-sacs and other selected stands, engine ground runs will be limited to check-starts and idling power. For checks requiring the use of greater power settings a move to a more suitable stand may be required by the Airfield Safety Unit.

4.2.2 The aircraft must be positioned correctly on the stand in such a way that engine running will not harm persons or cause damage to aircraft, buildings, installations, vehicles or equipment in the vicinity.

4.2.3 All apron equipment must be placed at a safe distance from the aircraft.

4.2.4 Where applicable, the rear of stand road must be closed, to safeguard vehicular traffic, before any approved engine run is permitted.

4.2.5 The aircraft anti-collision beacon(s) must be switched on before engines are started and must remain on for the duration of the ground run.

4.2.6 The engineer in charge of the ground run must ensure that the aircraft wheels are safely chocked and that the aircraft cannot move forward under any circumstances.

4.2.7 Ground running must not take place when passengers are being embarked/disembarked on any adjacent or opposite stands, except when such passengers are using an airbridge.

4.2.8 A trained member of airline or handling staff is to be positioned on the stand in verbal contact with the flight deck. He/she will communicate by R/T or interphone with the flight deck to ensure that the engine(s) are shut down if persons or vehicles move into the danger area in front of, behind or in the vicinity of a live engine. For this purpose and if the R/T or interphone link is unserviceable, hand signals by day and light signals by night may be used.

4.2.9 Any operator requiring advice on the safety aspects of paragraph 4.2 above should contact the Airfield Safety Unit, telephone 1234-5678.

4.3 Aircraft in Other Areas

4.3.1 If engine ground running is approved to be carried out in any other location, it is the responsibility of the engineer in charge to ensure that the area behind the aircraft, which could be subjected to blast, is clear of persons, vehicles and equipment and that the ground is firm and free from loose tarmac, stones and other materials. The area immediately in front of the engine intake(s) must also be clear. A look out must be provided as in paragraph 4.2.8 above.

4.3.2 Any operator requiring advice on the safety aspects of paragraph 4.3.1 above should contact the Airfield Safety Unit, telephone 1234-5678.

4.3.3 During all ground running of engines, other than in the Maintenance Area, a listening watch must be maintained on the ATC Ground Movement Control frequency to ensure the prompt initiation of emergency procedures if required.

5 Auxiliary Power Units

5.1 Aircraft APUs generate high levels of noise and significant fumes which can cause disturbance to those in nearby aprons, buildings and residential areas. The noise of an APU may mask the noise of an approaching vehicle, thus endangering staff.

5.2 Airlines and handlers are to ensure that APUs are used for the absolute minimum time necessary to meet operational needs.

5.3 APUs are not to be used as a substitute for either FEGP or GPUs.

6 GROUND POWER UNITS

6.1 Constantly running GPUs can cause high noise levels on the apron, are an additional obstruction to free movement around a parked aircraft and, if poorly maintained, may deposit oil spillage on the stand.

6.2 In apron areas where FEGP is provided and serviceable, GPUs are not to be used. Where there is no alternative to the use of GPUs they should be promptly shut down when power is no longer required.

6.3 When purchasing new GPUs, airlines and handling agents are urged to make low working noise levels a prime requirement in the selection process.

7 GENERAL

Any questions relating to this Instruction should be addressed to the Airfield Operations Department, telephone 1234-5678.

Appendix E – Foreign Objects on the Apron and the Removal of Hazards

MANPOOL AIRPORT

MODEL SAFETY INSTRUCTION NO 5/9-

FOREIGN OBJECTS ON THE APRON AND THE REMOVAL OF HAZARDS

1 INTRODUCTION

1.1 Manpool Airport is responsible for taking adequate measures to ensure the safety of aircraft, vehicles and persons using the aprons. A fundamental element of the safety effort is to maintain the aprons in a clean condition and free from obstructions.

1.2 Foreign objects are regularly deposited on the Movement Area and it is essential that all airport personnel understand the danger to flight safety that such objects represent. They may be ingested into aircraft engines causing damage leading to engine failure, which is specially critical if it occurs in flight, particularly if it occurs during the take-off phase. At best such damage leads directly to premature engine removal and replacement. In addition, damage caused by foreign objects can occur to tyres and undercarriages, control systems and other parts of the airframe. All such damage could lead to in-flight failures and inevitably requires expensive repairs to be made. All foreign objects are a threat to aircraft safety.

1.3 Foreign Object Debris (FOD) is a general term which applies to all loose objects which are a danger to the safety and integrity of an aircraft and which, therefore, must not be left in any area so as to constitute a hazard. The list of FOD items most frequently found on the apron is long and principally includes:-

Plastic and paper bags/sheets, rags, empty oil and hydraulic fluid cans, empty soft drink cans, nuts and bolts, tools and equipment, luggage wheels and tags, metal cutlery, burst ballast bags, broken wooden items and miscellaneous rubbish.

The presence of FOD is due mainly to the carelessness of staff and their lack of understanding of the consequences.

2 GENERAL RULES

2.1 Responsibilities

2.1.1 Under the provisions of the Air Navigation Order, it is an offence to deposit or leave any item of FOD on any part of the Movement Area. It is the direct responsibility of airlines, handling agents, fuelling companies, cleaning companies, catering companies, engineering operatives/contractors and all other users of the aerodrome to ensure that it is maintained in as safe and clean a condition as possible and that all FOD is removed as soon as it is found. Great care must be exercised by all those working on the apron, particularly those working on aircraft, to ensure that no FOD is left behind from their operation.

2.2 Aprons Areas

After completing the ground handling, refuelling and servicing of an aircraft the stand areas must be left clean and tidy. FOD must be removed or placed in the containers provided. All apron equipment which could be blown away must be secured to some fixed object, or stored in a safe place not exposed to wind or aircraft engine blast effect.

2.3 Vehicles on the Movement Area

Before proceeding from one area of the airport to another via a route that involves crossing the Movement Area, all vehicles must be carefully inspected to ensure that anything that is carried in or on the vehicle is secured, that all doors and tail or side boards are closed and securely locked shut and that no parts of the vehicle or trailer are loose and likely to become detached.

2.4 Spillages

Manpool maintains cleaning equipment and crews at readiness for the immediate clean up of spillages. All spillages of materials must be reported immediately to the Airfield Safety Unit, telephone 1234-5678, for their action. This is especially important when the spillage is fuel or any other inflammable material – the current Safety Instruction entitled Fuelling of Aircraft refers. The current Safety Instruction entitled HAZCHEM gives instructions concerning the handling of damaged consignments containing hazardous materials.

2.5 Removal of Apron Hazards

2.5.1 The parking or abandonment of unserviceable ground equipment or vehicles, contractor's materials and miscellaneous objects on the aprons constitutes a safety hazard and contributes to apron congestion.

2.5.2 If unserviceable equipment, vehicles, contractors' materials or other miscellaneous objects (hereinafter referred to as 'the Object') are found to be creating an obstruction or a hazard they will be marked with a notice by the Manpool Airfield Safety staff. The wording on the notice will state that Manpool requires the offending Object to be removed from the airside area within 72 hours of the date and time of fixing the notice and that any questions arising from the notice are to be directed to the Airside Safety Unit.

2.5.3 If an offending Object is not removed within the notified period it will be removed to a Manpool compound and retained for a period of 'x' weeks. If the owner of the Object does not come forward or cannot be traced it will be disposed of, without prejudice, after the expiry of the holding period.

2.5.4 If an offending Object is considered to be an immediate hazard it will be removed immediately and without prior notice.

2.5.5 Manpool accepts no responsibility for any damage to the Object before, during or after removal to the compound.

3 GENERAL

Any questions relating to this safety instruction should be addressed to the Manpool Airfield Operations Department, telephone 1234-5678.

Appendix F – Aircraft Push-Back Procedures

MANPOOL AIRPORT

MODEL SAFETY INSTRUCTION NO 6/9-

AIRCRAFT PUSH-BACK PROCEDURES – LIVE AIRCRAFT

1 INTRODUCTION

This instruction sets out the requirements for aircraft push-back procedures that are used at Manpool.

2 ATC PROCEDURES

2.1 The standard ATC procedures are set out in the UK Aeronautical Information Publication (Air Pilot) and must be followed. All aircraft must have the permission of Manpool Ground Movement Control before commencing push-back. This permission is obtained on frequency 1**.* MHz or such other frequency as may be promulgated by ATC.

2.2 Once pilots have been given approval to enter the manoeuvring area, all aircraft are under the control of ATC and must, therefore, be able to comply with ATC instructions. Speech communications should be maintained between the aircraft flight deck and the push-back crew in order that a prompt response may be given to an ATC instruction, and a fast reaction to any other safety situation, during push-back. In the absence of speech communication, standard hand signals must be used.

2.3 Occasionally temporary conditions may have to be applied to push-back procedures because of works on the Movement Area or similar reason. Operators should be aware that such temporary conditions are published by NOTAM and by local Safety Instruction. It is the responsibility of airlines to ensure that their flight and push-back crews are briefed on such changes in order to maintain the safety of the Movement Area.

3 APPROVAL OF OPERATORS PROCEDURE

Manpool does not seek to influence the detailed technical content of push-back procedures which are the clear responsibility of the airline or handler concerned. However, the following general requirements are to be met:

(a) Airline's management must produce comprehensive, written procedures, for each aircraft type operated, for use by their crews for push-backs.

(b) All ground crew must be trained in the use of the procedures and certificated as competent, by a training officer nominated and named by the airline's management.

(c) Push-back supervisors should be nominated, trained and certificated as competent in their duties, as in (b) above.

4 SAFETY PROCEDURES

In addition to the technical procedures covered at paragraph 3. above, the following requirements should be met:

(a) The push-back provisions of the current Manpool Safety Instruction on AIRCRAFT BLAST AND FUMES must be complied with.

(b) The aircraft anti-collision beacon(s) must be switched on before any engine is started and before push-back commences.

(c) The push-back supervisor should be positioned so as to maintain a full view of the aircraft and in speech contact with the flight deck crew and visual contact with the remainder of the ground handling team. All ground crew members should understand the visual signals to be used.

(d) 'Tail-men' and/or 'wing walkers' should be employed to safeguard the rearward movement of the aircraft and also prevent collisions with other aircraft, vehicles or personnel.

(e) All members of the push-back crew must wear suitable hearing protection and high visibility safety garments that comply with current standards.

(f) The push-back must end with the aircraft aligned with the taxiway/taxilane centreline.

(g) In conditions where multiple push-backs are approved, pilots must comply with the inter-aircraft spacing specified in ATC instructions and all aircraft must comply with(f) above.

5 GENERAL

Any questions relating to this Instruction should be addressed to Manpool Airfield Operations Department, telephone 1234-5678.

Appendix G – Power-Back Procedures

MANPOOL AIRPORT

MODEL SAFETY INSTRUCTION NO 7/9-

POWER-BACK PROCEDURES

1 INTRODUCTION

1.1 Manpool must be satisfied that any power-back manoeuvres carried out at the airport are conducted safely, in accordance with an agreed procedure and with minimum disturbance to other apron users. Prior agreement in writing must be obtained by an airline and will be subject to the provisions of this Safety Instruction being met. However, once a procedure has been approved, 'blanket' agreement may be given. This instruction details the requirements for the regular/ routine employment of power-back procedures, by airlines, for aircraft departure.

1.2 The approval procedure for ad-hoc power-back, by single aircraft and to overcome special conditions, is detailed in the current Manpool Safety Instruction entitled AIRCRAFT BLAST AND FUMES.

2 POWER-BACK REQUIREMENTS

(a) Authorization and procedures for power-back must be included in the aircraft manufacturer's manual.

(b) The power-back procedure must be incorporated in the airline's Operations Manual.

(c) Any pilot intending to use power-back must be trained and experienced in the procedure.

(d) The aircraft anti-collision beacon(s) must be switched on before the engines are started.

(e) The power-back manoeuvre must be guided by a trained power-back marshaller, provided by the airline, using standard ICAO power-back marshalling signals.

(f) At the start of the manoeuvre a minimum of forward movement is permitted, sufficient only to ease any 'flat' out of the aircraft's tyres.

(g) The minimum engine power settings should be used, sufficient to get/keep the aircraft moving.

(h) Wing walkers must be employed to safeguard the rearward movement of the aircraft, ensure safe wingtip clearances and to avoid collisions with other aircraft, vehicles or personnel.

(j) The power-back manoeuvre should end with the aircraft aligned with the centreline of the taxiway.

(k) At no time during the power-back manoeuvre should the aircraft's wings sweep adjacent parking stands, whether or not they are occupied.

3 POWER-BACK DEMONSTRATION

Before agreement for power-back can be given, Manpool Airfield Operations Manager will require to observe a trial/demonstration of the full power-back manoeuvre using the aircraft type, aircraft weight, engine power settings and procedure intended for operational use. An assessment will be made on the effects of engine noise, vibration, blast overpressures and fumes, observed during the trial, to determine the suitability of the procedure.

4 APPLICATIONS

Airlines who wish to introduce regular power-back departures for their aircraft should, in the first instance, apply in writing to the Manpool Airfield Operations Manager giving details of the aircraft type(s) concerned.

5 GENERAL

Any questions relating to this Safety Instruction should be addressed Manpool Airfield Operations Manager, telephone 1234-5678

Appendix H – Winter Operations and Apron Hazards

MANPOOL AIRPORT

MODEL SAFETY INSTRUCTION NO 8/9-

WINTER OPERATIONS AND APRON HAZARDS

1 INTRODUCTION

1.1 The current Safety Instruction entitled – MANPOOL SNOW CLEARANCE PLAN summarises snow clearance responsibilities and arrangements for the manoeuvring area. Those provisions are not repeated here.

1.2 This instruction sets out the precautions to be taken on the aprons in winter conditions, including the responsibilities of apron operators when freezing conditions are experienced or expected.

2 NOTIFICATION

2.1 When meteorological warnings of frost or freezing conditions are received, or freezing conditions are observed on the apron, details will be transmitted to airlines, operators and staff, using the dedicated pages on the Manpool staff information system.

2.2 Manpool will make every effort to disseminate information on the changing weather situation. It is also the responsibility of airlines, handling agents and operators to warn passengers and staff of the likely presence of snow and/or ice in their operational areas and for them to take self-help measures whenever possible.

2.3 Any winter hazards not specifically mentioned in Manpool messages should be notified to the Airfield Safety Unit for action.

3 MANPOOL RESPONSIBILITIES

Manpool will assess any freezing conditions and arrange for de-icing and gritting operations as deemed necessary. Airbridges, including outside steps, and fixed stand equipment will be de-iced by manpool staff as will passenger routes and any associated steps/ramps. Any airline experiencing difficulty should contact the Airfield Safety Unit for advice and assistance.

4 PRECAUTIONS IN FREEZING CONDITIONS

Winter weather brings extra hazards which require awareness and more care on the part of personnel working on the aprons, if accidents are to be avoided. Simple precautions that can reduce accident risks should be taken as follows:

(a) Allow additional time for all ramp activities and take extra care when walking across apron surfaces which may be slippery.

(b) Take extra care when driving, especially when approaching an aircraft, or on the approaches to a road junction. When driving, bear in mind that vehicles require a greater distance in which to stop safely.

(c) Do not leave a vehicle unattended with the engine running, simply to keep the cab warm.

(d) Ensure attention is given to vehicle inspection prior to use. Check the operation of lights, battery condition and that anti-freeze is used in coolants.

(e) Surfaces treated with de-icing/anti-icing fluids initially become more slippery , particularly painted areas. Staff and passengers should be warned to exercise extra care in these circumstances.

(f) High visibility clothing should be worn in accordance with current instructions.

(g) Make allowance for other staff whose movements may be restricted by difficult working conditions.

(h) Bins containing small grit, of the grade acceptable for engine ingestion, are provided on all stands. This grit should be used to improve traction for vehicle wheels, particularly push-back tugs.

(j) Salt must never be used to de-ice apron surfaces due to the corrosive effect upon aircraft.

5 AVOIDANCE OF WATER SPILLAGE FROM VEHICLES/INSTALLATIONS

5.1 In freezing conditions, or when freezing conditions are forecast, action must be taken to avoid the unnecessary formation of ice on apron and road surfaces. Operators of specialist vehicles involved in the carriage of water must take special precautions as follows:

(a) Operators of potable water tankers and toilet servicing vehicles must be vigilant that there is no spillage or leakage leading to subsequent freezing. The flushing of potable water tanks is not permitted on apron surfaces.

(b) Care must be taken in the use of potable water points to contain spillage and overflow to a minimum.

(c) The washing of apron equipment and vehicles is not permitted except in the specialist washdown areas provided.

(d) Catering vehicle operators should ensure that any surplus ice from aircraft galleys is disposed of properly and not dumped on the apron.

(e) If a spillage occurs the Airfield Safety Unit should be informed immediately.

5.2 All operators of aircraft parked on stand during freezing conditions should ensure that galley drains are not left dripping on to apron surfaces and that when aircraft tanks are drained the drained water is disposed of where it cannot present an ice hazard if it subsequently freezes.

6 GENERAL

Any questions relating to this Safety Instruction should be addressed to Manpool Airfield Operations Manager, telephone 1234-5678.

Appendix J – Strong Winds

MANPOOL AIRPORT

MODEL SAFETY INSTRUCTION NO 9/9-

STRONG WINDS

1 INTRODUCTION

1.1 Strong wind conditions can give rise to hazards from wind-blown items and in very strong winds there is a possibility of structural damage to aircraft. The principal threats are of engine ingestion or airframe damage to aircraft on stands, taxiways and runways; the severity of the threat of obstruction of a runway to an aircraft taking off or landing cannot be stated too strongly. There is also a danger of personal injury for apron staff and damage to vehicles and equipment.

1.2 This Instruction details the requirements, and precautions to be taken, when strong winds are expected/experienced at Manpool.

2 STRONG WIND WARNINGS

When meteorological warnings of strong winds are received by Manpool, the details of the warning will immediately be broadcast by a message on the staff information system.

3 RESPONSIBILITIES IN STRONG WINDS

3.1 When a strong wind warning has been issued, or when strong wind conditions are experienced, the following actions must be taken by airlines, handling agents, operators and staff:

(a) Extra vigilance must be exercised to prevent accumulations of FOD and to ensure that all loose items are removed or safely stowed (plastic bags and sheeting are a particular threat to engine ingestion in all areas of the airfield.). Action must be taken to ensure that covers are securely fastened on all waste containers.

(b) All ground equipment and vehicles on the aprons, not in immediate use, must be parked in the areas provided with parking brakes applied.

(c) Equipment in use on stands must be secured with parking brakes set. Equipment without parking brakes must be chocked or removed.

(d) Large items of equipment that are vulnerable to winds, such as empty freight containers, must be secured to a fixed object or removed to a protected area.

(e) All loose items in contractor's works areas must be secured or removed.

(f) Staff observing any obstruction or equipment moving in the wind, irrespective of ownership, must take action to secure it.

(g) Handling staff should take special precautions when towing aircraft and should refer to the company's operations manual for specific guidance.

(h) Aircraft rubbish and equipment that is normally temporarily placed on the stand, such as bagged waste, blankets or headsets, must be removed or securely stored immediately it is removed from the aircraft.

4 AIRBRIDGES

When windspeeds exceed 30 kts, airbridge cabs should be fully lowered with the shutters closed and where possible positioned to face out of wind, to avoid structural damage. Manpool Engineering will initiate this airbridge safeguarding.

5 POSITIONING AND PICKETING OF AIRCRAFT

Airlines who wish to position their aircraft facing into wind should advise the Airfield Safety Unit and request allocation to a suitable stand or other airfield area. Owners of GA aircraft or their agents should contact airfield operations if they have any problems in picketing their aircraft.

6 TOWING OF AIRCRAFT

Airline operators are responsible for issuing instructions on the limiting windspeed for the towing of their Company's aircraft.

7 CANCELLATION OF STRONG WIND WARNINGS

When strong winds have subsided, or are no longer expected, a cancellation message will be broadcast on the staff information system.

8 GENERAL

Any questions on the Safety Instruction should be addressed to Manpool Airfield Operations Manager, telephone 1234-5678.

Appendix K – Operations in Low Visibility

MANPOOL AIRPORT

MODEL SAFETY INSTRUCTION NO 10/9-

APRON OPERATIONS IN LOW VISIBILITY

1 INTRODUCTION

Low visibility procedures (LVPs) are introduced at Manpool when the Runway Visual Range (RVR) is reduced to 800 metres or is forecast to fall below this value. The decision to declare LVPs is taken and initially notified by ATC. LVPs are for the protection of aircraft operating down to the very lowest visibilities and are framed to protect runways, precision approach aids and aircraft movements, by limiting vehicular movements to the minimum necessary and stopping all engineering works on the Manoeuvring Area. Manpool is responsible for safeguarding the Manoeuvring Area and the attention of staff is directed to this instruction which gives the procedures for operating on the apron in low visibility.

2 LOW VISIBILITY WARNINGS

When LVPs are declared by ATC, Manpool will immediately arrange for the broadcast of a warning to airlines and staff by a message on the staff information system.

3 RESPONSIBILITIES DURING LVPs

When aware that LVPs are in force, staff should comply with the following:

(a) Only vehicles operated by Manpool Operations, ATC, the Airport Fire Service, aircraft tugs (see b.) and vehicles escorted by Manpool Operations are permitted on the Manoeuvring Area and these will be under the positive control of ATC.

(b) Tugs involved in a push -back operation are permitted to enter the taxiway, when coupled to an aircraft and must recover to the stand by the most direct means when the push-back is complete.

(c) Tugs with aircraft under tow may do so only under escort by a Manpool Operations vehicle.

(d) Warning signs denoting that LVPs are in force will be positioned at the approaches to the Manoeuvring Area and drivers must comply with these signs.

(e) Drivers must be familiar with the limits of the aprons and must not enter a taxiway by crossing the double white painted lines that mark the boundary between the taxiways and the aprons.

(f) Safeguarding barriers will be placed on airside roads adjacent to a taxiway to warn drivers.

4 TAXIWAY CROSSINGS

When RVR is reduced to 500 metres all controlled crossings of taxiways/taxilanes will be closed, the lights will be set to red and a warning sign, indicating the closure, will be displayed.

5 LOW VISIBILITIES ON APRONS

When visibilities are reduced to values of 200 metres or less staff should observe the following precautions:

(a) Vehicles should be operated with dipped headlights, and where fitted, fog lights, illuminated and drivers should proceed with extreme caution.

(b) Vehicle obstruction lights should be switched on.

(c) Only essential journeys on the aprons should be undertaken.

(d) All staff should be alert to the sudden appearance of an aircraft entering a stand and be prepared to give way accordingly.

6 CANCELLATION OF LVPs

When ATC notify that LVPs are cancelled, Manpool will immediately arrange to advise staff by a message on the staff information system.

7 GENERAL

Any questions on the Safety Instruction should be addressed to Manpool Manager Airfield Operations, telephone 1234-5678.

Part 6 Training for Safety

CONTENTS

This organisation is committed through training to provide all its employees with the skills and competencies to work safely and effectively towards achieving our business goals.

This means:

- *Identifying skills and competency requirements through training needs and risk assessment.*
- *Developing training programmes in co-operation with employees, airport licence holders and our business partners.*
- *Delivering appropriate training in a timely fashion. Regularly reviewing the effectiveness of the programme.*

1 INTRODUCTION

1.1 The above is an example of a Training Policy Mission Statement. Such a statement, indicating committment to training at the highest level, should be issued by the Board as it will form the foundation of a successful training organisation.

1.2 All employers have a responsibility to train their employees under requirements set out by the Health and Safety at Work etc. Act 1974 and associated regulations. Having a competent, safe workforce makes good business sense and is an essential element in any quality organisation, and especially so in the air transport industry.

1.3 Effective training does not just happen, it has to be managed. Training objectives should be supported by a clearly set-out policy; the organisation and resources should be in place to deliver the policy objectives and there should be provision for the measurement of effectiveness. These principles are set out in Part 2 of this Document.

1.4 Working with and around aircraft and within the airside environment is inherently hazardous. Whilst the safety training programme of an organisation will cover a wide range of general safety issues, there are a number of specific training requirements which need to be addressed when considering safety management in airside areas.

1.5 Organisations working in the airside environment should address the following questions.

- Does the written training policy cover all staff and does it include airside safety training?
- How are the special needs of airside safety training identified and what objectives are set?
- Are sufficient resources available?
- Is there a structure in place to deliver the relevant safety training?
- How are trainees supervised?
- What monitoring is in place that will ensure airside safety objectives continue to be met?

1.6 The aerodrome manager should consider the need for co-ordination, exchangeability and compatibility of airside training between all airside service providers in order to foster standardisation.

1.7 The Safety Training Model shown in Figure 1 follows the principles set out in Part 2 of this document. Following the flow diagram in Figure 1 will assist organisations in developing their own training programmes.

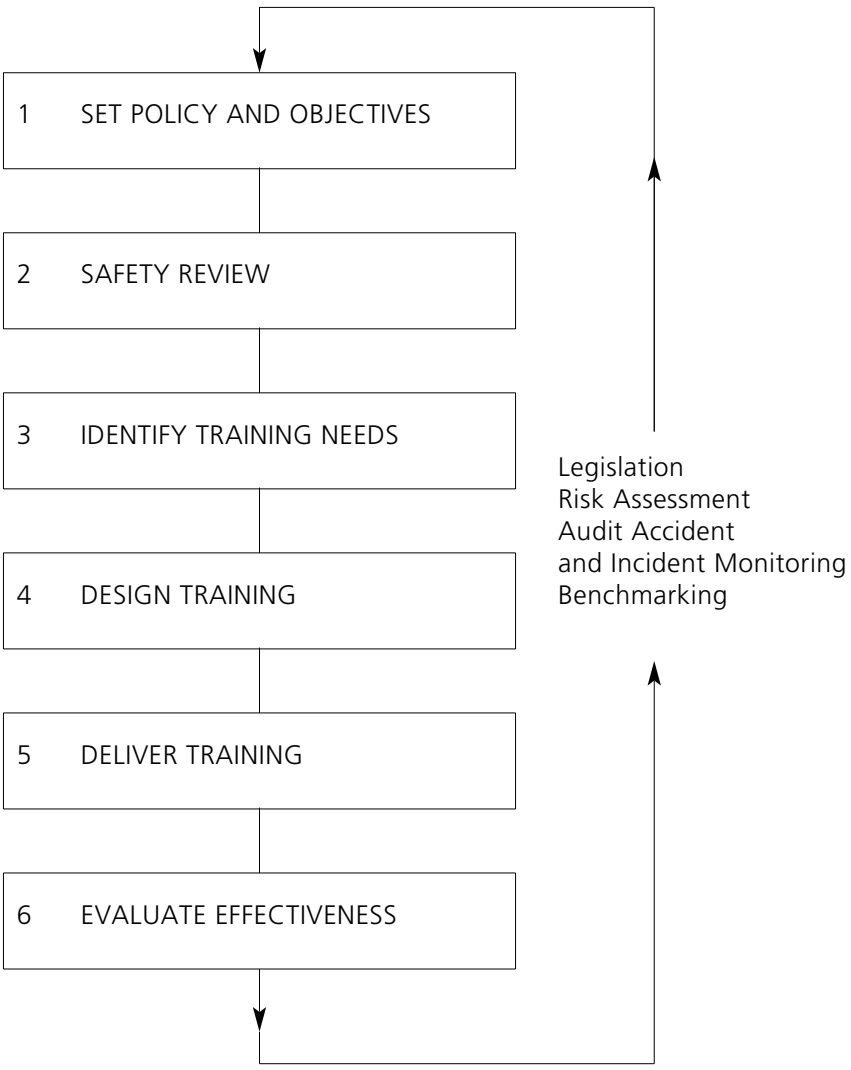


Figure 1 SAFETY TRAINING MODEL

2 THE SAFETY TRAINING MODEL

Each stage of the Safety Training Model is described in further detail in the following paragraphs:

2.1 Set Policy and Objectives

Each company will need a written policy which sets out the aims of the company towards airside safety training. An example of a mission statement precedes the 'Introduction' to this part.

2.2 Results of Safety Review

Regular safety reviews within organisations will identify areas where training will be required. This will be triggered by new legislation or changes in existing law, new work equipment or perceived weaknesses in the control of existing hazards. Detailed risk assessments and accident monitoring may also identify training requirements. For further detail and a model proforma, please see Part 2 pages 2–15 to 2–18.

2.3 Identify Training Needs

The data collected during a company safety review will need to be analysed and may need the input of a suitably qualified safety professional. Having identified the training needs, objectives can be set to develop the company's safety policy for both the organisation and the individual.

2.4 Design Training and Delivery

Designing training programmes for organisations may require specialist advice. In any event it is important to ensure that the trainers are competent to deliver the necessary course material and that the training is delivered in the right format; is relevant and is pitched at an appropriate level for the trainees. Copies of training schedules for all safety training undertaken within an organisation should be retained for future reference. Up to date records of all safety training undertaken within the company should be retained and made available for inspection when required. The records should be kept in such a way that an individual's training history can be comprehensively tracked.

2.5 Evaluate/Measure Effectiveness

Safety training should be reviewed at least annually to ensure that training needs are being met and that training is effective in bringing about desired changes in behaviour and safety awareness. Systems to measure these changes should be in place and methods of measuring achievement need to have been set at the training objectives stage within this module. A system of feedback from employees will enable employers to assess whether the courses are meeting their objectives and changes identified by training evaluation or audit should be fed back into the course design administration.

3 CATEGORIES OF TRAINING

3.1 Within organisations the following categories of safety training will need to be provided.

(a) Induction training.

(b) General safety training.

(c) Safety skills training.

(d) Refresher training.

3.2 Induction Training

Safety induction training should be carried out for every person who is new to an organisation or department. Ideally, the induction training should be carried out by the person's immediate supervisor or manager, or, if this is not practicable, by a suitably experienced and qualified 'trainer'. As a minimum, it should cover local emergency procedures, main hazards of the job, key safety procedures, rules and the names of key safety personnel and safety representatives within the organisation.

Managers and Training Officers may find an induction checklist useful and a model proforma is attached at Appendix A for adaptation and use.

3.3 General Safety Training

Safety awareness training should be carried out for all levels of staff. Courses will normally be required for top and senior managers, middle to junior managers, first line supervisors and operatives. The courses should include the following:

- The Company health and safety policy.
- Responsibilities for health and safety stemming from legislation and the company safety policy.
- Key safety issues specifically relevant to the locality and role of the trainee, particularly with regard to hazards.

An example of a specific training package, 'The Ramp Safety Code', is attached at Appendix B.

3.4 Safety Skills Training

Most categories of staff will require additional health and safety training to ensure they can work safely. Some of this safety skills training is a statutory requirement and contained within specific regulations, other skills courses will be identified in the company's training needs analysis. The specific types of training for staff working in airside areas will clearly depend upon the functions fulfilled by that organisation. However, the following list of training areas will need to be considered (this list is not exhaustive):

- Driver training.
- Specialist vehicle training.
- Airside familiarisation training.
- Use of personal protective equipment.
- Noise.
- Radio telephony equipment.
- Emergency procedures (low visibility/inclement weather).
- Flight safety/Mandatory Occurrence Reporting procedures.

3.4.1 Each area of safety skills training will require a lesson plan linked to the syllabus to ensure consistent application of courses over a period of time. **A Model Lesson plan for driver vehicle training is attached at Appendix C. A further Model Lesson plan for radio telephony procedures is attached at Appendix D.**

3.5 Refresher Training

Staff who need key safety skills should receive up to date refresher training. The frequency will vary according to the degree of risk; the use of the skills and the rate at which skills can be forgotten and when any significant changes to procedures are made. Refresher training should be programmed and recorded when completed.

4 CONCLUSION

By following the guidance and advice contained within this part of CAP 642, airside operators will be able to develop a systematic approach to assessing training, delivering training needs and evaluating its effectiveness. Please adapt and use the attached 'models' to suit your own circumstances.

Appendix A New Starter's Health & Safety Checklist

MODEL CHECKLIST

Company	

This checklist is to be used for all new starters, whether new to the company or relocated from other departments/companies, in order to familiarise them with the local arrangements for health and safety. The checklist should be completed by the Manager or Supervisor as soon as possible after the new member of staff reports for duty.

Notes to assist in completion of the form are given on the back page. The form should be signed by both the Manager and the new starter when the briefing is complete and returned to the appropriate Personnel Department for filing.

Name:	Section:	Dept:

Pay No:	Date Started:

		Tick Box
1	**Fire Safety**	
	Evacuation alarm – type	☐
	Emergency escape routes/exits – housekeeping	
	Assembly points	
	Fire call points – How to raise alarm – emergency telephone number – fire fighting equipment	
	Any other emergency procedures	
2	**Hazards of the job (list)**	
	2.1	☐
	2.2	☐
	2.3	☐
	2.4	☐
	2.5	☐
	2.6 Walk round to point out hazards	☐
3	**Specific Safety Instructions (list)**	
	3.1	☐
	3.2	☐
	3.3	☐
	3.4	☐
	3.5	☐
	3.6 Any other relevant instructions	☐
4	**Protective Equipment/Clothing required (list)**	
	4.1	☐
	4.2	☐

		Tick Box
	Protective Equipment/Clothing required (list) cont.	
	4.3	☐
	4.4	☐
	4.5	☐
	4.6	☐
5	**Fault Reporting Procedure**	☐
6	**Name of Safety Representative (if applicable) and local Safety Advisor**	☐
7	**Accident/Incident reporting procedure**	
	Location of Accident report forms	☐
8	**First Aid Facilities**	☐
	Location of first aid facilities	☐
	Name(s) of Aider(s)	☐
9	**Welfare/Hygiene Facilities**	☐

10 Manager's/Supervisor's Statement

I confirm that the above named member of my staff has been briefed on the health and safety subjects listed above.

Signed _____ Name _____

Job Title _____ Date _____

11 New Starter's Statement

I confirm that I have been briefed on the above health and safety matters and have asked for clarification of anything I do not understand.

Signed _____ Name _____

Job Title _____ Date _____

Notes on Completing this Checklist

New Starter

This form is to be handed to your new manager or supervisor on your first day. It is your manager's responsibility to ensure that all the items on this form are covered so that you have a basic knowledge of the health and safety requirements before you start work. It is also important that you are aware of your responsibilities as an employee, in looking after your own safety and that of others working with and around you.

Manager/Supervisor

It is essential that this checklist is completed at the earliest possible opportunity. The checklist does not replace essential on-the-job training that may be required or the regular fire precautions training which is required by law. When all the items have been covered, the new starter must sign the form to acknowledge that the information has been given. You should then sign it and return it to your Personnel Department for filing.

To help you complete the checklist the following items should be covered.

1 Fire Safety

Describe the sound of the fire alarm and whether it is one or two stage, i.e. intermittent and continuous. Indicate emergency escape routes and exits and walk them through to the assembly points. Explain how to raise the alarm in case of fire or other emergency, show where the fire call points are and make sure the emergency telephone number is known.

2 Hazards of the Job

List the main most serious hazards that will be encountered in the work area. Explain each one and how to deal with it. If more detailed training will be given later, say so. Walk round the work area with the new starter and point out any hazards. You may find it useful to develop a comprehensive list of work area hazards to attach to this checklist.

3 Specific Safety Instructions

There may be specific instructions to be followed and you should go through these where appropriate. In addition, you may feel it is appropriate to highlight company safety instructions where they have particular relevance.

4 Protective Equipment/Clothing

If any protective equipment or clothing is to be used you should explain exactly what is required and make arrangements for this to be issued. Explain how to look after it.

5 Fault Reporting Procedure

Explain the system for reporting safety hazards in the area. Emphasise the importance of reporting faults at once and not leaving them for someone else to discover.

6 Name of Safety Representative and Safety Advisor

Give the name of the local Safety Representative (if any) and the Safety Adviser. Explain in addition that any complaints about safety or any suggestions for improvements should be directed through the Manager/Supervisor in the first instance.

7 Accident/Incident reporting procedure

Emphasise the importance of reporting all accidents and incidents, including near misses. Show an example of the company accident reporting form, explain where the forms are kept and stress the importance of completing these fully.

8 First Aid Facilities

Explain the whereabouts of the nearest first aid facilities and give the name(s) of any first aider(s) in the section.

9 Welfare/Hygiene Facilities

Make sure the new starter is aware of the location of toilets and washing facilities. If occupational health facilities are available, explain where they are located and how frequently the occupational health staff visit.

Appendix B The Ramp Safety Code

CONTENTS

GUIDANCE NOTES ON USE OF THE RAMP SAFETY CODE TRAINING MATERIAL INSTRUCTORS NOTES AND LESSON PLAN

1 Introduction

This training material is an extract from a larger training package which includes a supplementary video entitled 'The Ramp Safety Code'; a booklet produced by BAA plc and approved by the AOA and the CAA and a pocket card outlining the ramp safety essentials. The whole package is intended to be used flexibly: for example, the training does not have to be completed in one session and in-house training aids may enhance the relevance of the training.

In the model detailed here only the core elements of the package are reproduced. It is for airport and operators' management to determine the need for providing any supplementary training aids.

2 Who Is It For?

The safety code is designed to be used for induction training in ramp safety for staff who have never worked in airside areas before. The package can also be used as a basis for refresher safety training for those who have been working airside for some time (eg more than 3 years).

3 What Is Its Aim?

The purpose of the code is to assist in meeting statutory health and safety requirements to inform staff about the hazards associated with their work and provide a basic training in the control of these hazards. Ultimately the aim is to heighten the safety awareness of all staff who work airside and to reduce the number of accidents year by year.

4 When Should Staff Receive the Training?

Induction – Every new member of staff should receive training of the type set out in the following pages as soon as possible after joining the company or the department. Preferably the training should be given before the individual starts regular airside work.

Refresher – It is recommended that staff are given refresher training in basic ramp safety every three years.

5 Instructors Notes – Ramp Safety Code

The instructional content in these notes represents the basic formal safety instruction which is to be given to staff who are new to working in airside areas. It is important that this training is not given in isolation to the work carried out by the trainees. Wherever possible the training content should be linked to the trainees workplace and work activities. The training should also include any safety information on skills

which is specific to their work. For instance aircraft cleaners need to be aware of the danger of hyperdermic syringes which may be abandoned down the backs of seats and how to dispose of them.

The training should also be linked to practical introductions to the workplace. For instance, an initial tour of the ramp and its activities should be made before the training is given.

Master copies of supporting overhead projector transparencies are included. However, the instructor is encouraged to use his own or his company's visual aids and other material to bring the training alive and increase its relevance.

The basic course and test will take about 3 hours. For operational reasons or because some staff may have limited concentration spans, the course can be split into shorter periods. Suitable break points are shown in the notes.

6 End of Session Test

This test is in the form of a multi-choice questions which aim to test individual's understanding of the key messages in the training. If staff have difficulty in using this type of test, eg have difficulties in reading English, the instructor should go through it orally with the delegates. Because of the importance of understanding the basic safety requirements when working airside, the instructor should recap on poorly understood aspects of ramp safety before finishing the session.

7 Who Should Carry Out the Training?

This form of training is best carried out by a supervisor or supervisors who are close to the workforce. However, they should have the personality and communication skills to put the material across without boring the delegates. They should also have attended an instructional techniques course.

If a full-time or appointed trainer is used he should have previously worked on the ramp. He should involve management/supervision in the training, for instance by getting them to open and close the course.

8 Where Should the Training be Held

It is not necessary for the training to be held in a formal lecture room setting. However trainees should be seated in a room of comfortable temperature where they are not likely to be disturbed by excessive noise or the coming and goings of other staff. To run the course effectively the instructor will need a video player and TV and an overhead projector. He will also probably need to use a flipchart, whiteboard or blackboard.

9 Preparation

Good preparation is the key to good instruction. The instructor should make sure the delegates know where to go, at what time and for what purpose. He should book the

accommodation in good time before the training, and make sure there are enough seats and tables set out in the preferred arrangement. He should check that the visual aids are available and are working. Check the room temperature is satisfactory other facilities such as drinks and toilets are available. The day before he should rehearse the session and make sure all the training aids are ready to use.

10 Training Records

Because it may be necessary at a future date to prove that safety training has been given, an attendance sheet, which can be copied as necessary, is included with the instructors notes. Staff should sign against their names that they have attended and the record retained.

11 Feedback

Try to get feedback from the delegates on how the session went. You can use a trainee feedback form designed by your company's training branch or you can question them about different aspects of the course.

12 Training Evaluation

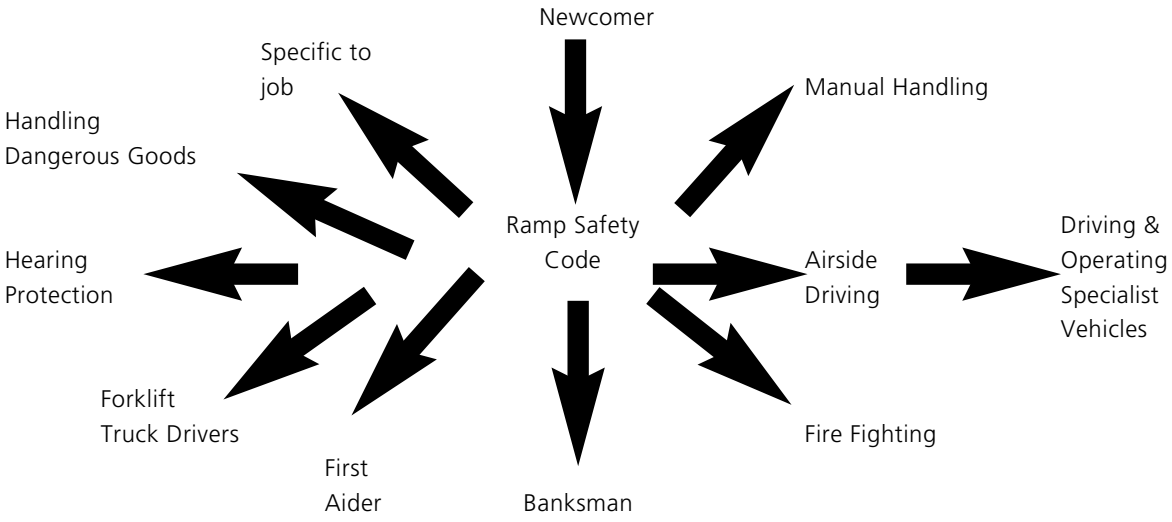
After a few months the instructor or line manager should evaluate the effectiveness of the training. The best way to do this is to observe the behaviour of the staff at work. Are they using the correct safety procedures and correct personal protective equipment (PPE) or are they taking short cuts and creating hazards? Is housekeeping good and FOD kept down to a minimum? Other indicators such as accident rates and the amount of damage to equipment can also indicate if staff are working safely or not.

If it is clear that the training has not been effective then the training should be reviewed. Nevertheless, no matter how good the training is, if the safety culture in the company is not right or the management structure is poor, safety can be compromised.

Real commitment to safety by top management is a prerequisite to an effective safety culture, this must be backed up by good safety policies, good safety management and communication systems combined with effective organisation and of course appropriate training at all levels.

13 Safety Training System

This training is intended as a basic safety induction course for anyone whose work takes them onto the ramp. Staff will almost certainly require further safety training depending on the tasks they carry out. For instance safety training, in adition to the ramp safety code, is required for the following activities:


Newcomer
Specific to job
Manual Handling
Handling Dangerous Goods
Ramp Safety Code
Hearing Protection
Airside Driving
Driving & Operating Specialist Vehicles
Forklift Truck Drivers
Fire Fighting
First Aider
Banksman

SAFETY INDUCTION TRAINING

THE RAMP SAFETY CODE

SUGGESTED PROGRAMME (3 hours)

INSTRUCTORS NOTES

SUBJECT	KEY POINTS	QUESTIONS/LINKS/SUMMARIES	TRAINING AIDS
INTRODUCTION	Welcome everyone to the course Introduce self, explain your appointment. Get delegates to introduce themselves.	Refer to OHP slide 'The Ramp Safety Code' – A safety induction training package for new staff on the ramp	OH1
Grab Attention	Refer to dangers on the ramp, especially for newcomers. Refer to recent or past accidents. Explain the cost* of accidents to your company and how many* man-days are lost because of accidents.	Ask delegates to guess the total cost to your company each year of accidents on the ramp. Chances are they will underestimate. Refer to OH slide 'What accidents really cost'.	OH2
AIM	State the overall aim of the training is to reduce the risk of accidents on the ramp – prevent injuries and fatalities and reduce damage to equipment and aircraft. Another aspect is to reduce the risk to aircraft and passengers in the air due to accidents on the ramp.		
**Note: The instructor will need to find out this information for his own company.*			

SUBJECT	KEY POINTS	QUESTIONS/LINKS/SUMMARIES	TRAINING AIDS
COURSE OBJECTIVES	At the end of the course you will be able to: (a) Answer questions concerning the main hazards faced by staff working on the ramp. (b) State the measures used to control these hazards. (c) Put the ramp safety code into practice at all times when working on the ramp. Explain the importance of the 'Airside Safety and Driving Code'* – it has the same status on the ramps as the highway code on public roads. The booklet will in effect be their course manual and 'bible' for working safely on the ramp. Explain that the booklet contains 2 main elements – General Safety and Driving Safety. They will be expected to know all that is in the general section and will be tested on its contents.	Refer to OHP 'Induction Training – Training Objectives' Issue a copy of the 'Safety Code' booklet to each delegate	OH3 Copies of 'Airside Safety and Driving Code'
RAMP LAYOUT AND AIRSIDE ROADS	Explain stand layout and access to stands. Point out the no-go areas for pedestrians. Explain the activities which go on when an aircraft arrives on the stand to when it leaves.	Refer to the pages showing typical stand and airport layouts in the Airside Safety and Driving Code Booklet. Use questioning techniques to obtain the sequence of operations on turning the aircraft round. They should have a good idea.	Airside Safety and Driving Code Booklet or locally prepared OHP slide

* *It will be necessary for each user of this lesson plan to provide appropriate supporting material. The 'Airside Safety and Driving Code' produced by BAA plc and endorsed by the AOA and the CAA will fulfil this purpose.*

SUBJECT	KEY POINTS	QUESTIONS/LINKS/SUMMARIES	TRAINING AIDS
HAZARDS CAUSED BY AIRCRAFT ON STANDS	Explain that every year staff throughout the world are killed or their health seriously impaired due to hazards on the ramp. The main ones are: * Engine blast * Engine suction * Being hit or run-over by part of an aircraft * Noise	Refer to OH slide 'Dangers from Aircraft on the Ground'	OH4
Suction & Blast	Explain each hazard in more detail and for blast and suction refer to the relevant sections in the 'Airside Safety and Driving Code' booklet. Refer particularly to the types of aircraft staff will be dealing with and the safety distances from engines for suction and blast. Advise delegates to wait for the nose wheel to be chocked, anti-collision lights to go out, and the engines run down before approaching the aircraft. Also don't allow any loose equipment on the apron near engine intakes or exhaust areas.	Refer to the page showing suction and blast zones around the aircraft in the Airside Safety and Driving Code Booklet.	Airside Safety and Driving Code Booklet
Being Hit	Explain that it is important for staff to be seen at all times in airside areas to avoid being hit by aircraft or vehicles. For this reason it is mandatory that staff wear high visibility jackets or tabards when working in airside areas. This is not necessary if they are merely transiting an area – eg. going from building to building.	Refer to the diagram of worker in protective clothing in the safety code booklet. Show examples of HV clothing issued by the company. Show how tabards are to be worn.	Airside Safety and Driving Code Booklet

SUBJECT	KEY POINTS	QUESTIONS/LINKS/SUMMARIES	TRAINING AIDS
Noise	Excessive noise can damage hearing permanently. We all know airports are noisy places. However you do not necessarily need to wear ear defenders when you are just walking about airside. However, if you are working close to aircraft with engines or auxillary power units (APUs) running, hearing protection must be worn. Explain that staff will be issued with ear defenders and given training in their use. Medical checks (audiometry) on their hearing are recommended as part of the guidance given in CAP 642.	Ask if anyone knows the danger from exposure to too much noise. Give examples of when they should wear ear defenders. Show the type of hearing protection issued by your company.	Examples of hearing protection issued to staff.
FIRST SUMMARY	You may wish to break the instruction a this point. ***Note to Instructors*** *1* ***Noise*** *In accordance with the Noise at Work Regulations staff must be given training in the use of hearing protection when they are issued with it. Before this noise assessments should be carried out to determine when hearing protection needs to be worn.* *2* ***Fumes*** *This topic is not included in this training package. However, staff may be concerned enough on this issue to ask a question about it.*	Summarise the key points so far.	

SUBJECT	KEY POINTS	QUESTIONS/LINKS/SUMMARIES	TRAINING AIDS
NON-AIRCRAFT HAZARDS	Although the hazards associated with aircraft are serious they give rise to few accidents for ramp staff because the hazards are easy to recognise. Most accidents on the ramp are therefore caused by other agents such as: * Vehicles * Manual Handling * FOD * Adverse Weather * Fuel * Smoking Airside * Spillages/Dangerous Goods * Inexperienced Contractors * Drink and drugs	Get the group to brainstorm non-aircraft hazards and use the whiteboard/flipchart to record their responses. Summarise by referring to OH Slide 'non-aircraft hazards'	OH5

SUBJECT	KEY POINTS	QUESTIONS/LINKS/SUMMARIES	TRAINING AIDS
Vehicle Hazards	Vehicles are the greatest source of accidents on the ramp, both in terms of serious injuries to staff and damage to equipment and aircraft. Besides cars, vans and lorries, there are many specialist vehicles in use such as the ramped baggage loaders (rocket launchers) and flat bed cargo lifts (FMCs) which create trapping hazards or the potential for falls from considerable heights. Before you can drive any vehicle in airside areas you must be trained, examined and hold a UK airside driving permit. Refresher training is a requirement every 3 years. A current DOT Driving Licence is a basic pre-requirement for the training. Airport operations staff and Police, where they are present on the airport, check on driving standards. Police may carry out speed checks and vehicle inspections (must be to MOT standard). Never attempt to drive or operate a specialist vehicle unless you have been trained and authorised to do so. Key points for driving safely airside which everyone should know: – The airside speed limit – Keep to road markings and all signs – Keep a good look out – Ensure load is secure – Only drive vehicles in good condition – Use a banksman when reversing	Refer to OH for meaning of these categories. Refer here to the types of specialist vehicles operated by your company and the training given. Question trainees about the sort of precautions they would expect in such an area. You can list responses on the whiteboard or flipchart. Refer to OHP Slide 'Driving Airside'.	OH6 OH7

SUBJECT	KEY POINTS	QUESTIONS/LINKS/SUMMARIES	TRAINING AIDS
Manual Handling	There are many activities on the ramp which involve lifting, pushing and pulling things – eg baggage handling, loading cargo and containers, handling equipment and so on. If carried out incorrectly these activities can cause strain injuries*, especially to the back and cuts and crushing injuries. For instance there have been severe crush injuries to legs and hands when baggage dollies have been man-handled. Staff who regularly handle loads will receive training in manual handling techniques. These include: * Lifting-keep back straight make legs do the work * Making full use of manual handling equipment * Wearing protective clothing – gloves and safety shoes * Getting help with heavy loads	Refer to manual handling activities carried out by the company's workforce and any special training given. Question staff as to how strain injuries can be avoided. Refer to OH slide 'Avoiding Strain Injuries'	OH8

Note to instructors:* ***The Manual Handling Operations Regulations 1992* *require employers to assess the risk of injury through manual handling activities. Where there is risk of injury and it is not practicable to avoid manual handling, the employer is required to put in place measures which reduce the risk, eg. by means of equipment, systems of work or training.*

SUBJECT	KEY POINTS	QUESTIONS/LINKS/SUMMARIES	TRAINING AIDS
Foreign Object Debris	FOD is anything lying about such as loose articles or materials which can cause damage to aircraft, for instance by being sucked into engines or puncturing tyres. It can threaten the safety of aircraft and passengers. FOD is also a danger when it is blown about by engine exhaust. Examples of FOD are nuts and bolts, paper, sheets of plastic, empty cans, bits of wood and so on. *Controlling FOD* – If you see FOD – PICK IT UP and put it in a FOD bin (green bins marked FOD at head of each stand) – For major FOD problems you can't handle – contact Airfield Operations Staff on Ext.____* – Always clear up any rubbish after you and dispose of it securely – remember wind can pick up any loose rubbish and blow it onto any aircraft movement area.	Question the group if they can think of the sort of things which could cause FOD. Refer to any FOD problems in your company and how you deal with rubbish. Refer to OH slide 'Dealing with FOD'	 OH9
** Insert the correct telephone number for your airport*			

SUBJECT	KEY POINTS	QUESTIONS/LINKS/SUMMARIES	TRAINING AIDS
Adverse Weather	It takes a lot to close down an airport because modern aircraft can continue to operate in extremely poor weather conditions. The main problems are fog, high winds and snow. Keep an eye on operations screens* for severe weather warnings. **Fog** * Reduce speeds. * Know where you are. * Special look out for vehicles, aircraft etc. * Use dipped headlights. **High Winds** Tie down or secure equipment which can blow about – eg empty baggage or cargo containers. **Snow and Ice** * Paint marking may be covered – know where you are. * Don't spill liquids which may freeze. * Help remove snow and ice from your area. Use grit and *not* salt.	Use questioning technique to elicit the precautions to take in severe weather conditions. Refer to OH slide 'Operating in Severe Weather' as a summary.	OH10
** Note: Quote the name of the Airport information system and the relevant page number.*			

SUBJECT	KEY POINTS	QUESTIONS/LINKS/SUMMARIES	TRAINING AIDS
Fuel	Aviation fuel is extremely flammable and aircraft take on board a huge amount of it on the stands. The main danger is fire. The main safety points are: * Do not drive over fuel pipes. * Do not block access routes for the emergency services or exit route for the fuel tankers/bowsers. * Know where the fuel emergency cut off stops are in case of fuel spillages. * Use of the stand phones to summon the emergency services by dialling ___* in case of fuel spillage or fire.	Refer to Page dealing with fuel leaks or fire in the Airside Safety Code.	Airside Safety and Driving Code Booklet
Smoking Airside	* No smoking anywhere airside including baggage sort halls (except areas set aside for smokers in permanent buildings). Anyone caught smoking airside will be disciplined and may be sacked. Tell trainees where it is possible for them to smoke during breaks.	Ask how many of them are smokers. You need to address this section specifically at them.	
** Insert the correct telephone number for your airport.*			

SUBJECT	KEY POINTS	QUESTIONS/LINKS/SUMMARIES	TRAINING AIDS
Spillage of Dangerous Goods	About 90% of air cargo is carried on passenger carrying aircraft. Much cargo is therefore loaded on the terminal stands in addition to the cargo stands. Many dangerous substances are carried by air. Staff should know the meaning of the hazard warning signs on the labels of containers containing hazardous substances. These are shown in the Airside Safety Code Booklet. Explain that all dangerous substances must be properly packaged in accordance with the ICAO Dangerous Goods Regulations. This should protect them from rupture or leakage during normal handling. However spillages can still happen in airside areas because of an accident or incorrect packaging. If you come across a spillage carry out the following actions. * Follow the procedures established by your company. * Identify the substance by the label on the container or the manifest. * If serious call the Airport Fire Service using the emergency telephone number ___* * Keep people away from the area if spillage is toxic, highly toxic, or radioactive until help arrives.	Run through the symbols used to categorise dangerous goods shown in the safety code booklet and tell delegates that they must remember these. Refer to overhead slide 'Dangerous Goods – Dealing with Spillages'.	Airside Safety and Driving Code Booklet or locally produced OHP slide. OH11
** Insert the correct telephone number for your airport.*			

SUBJECT	KEY POINTS	QUESTIONS/LINKS/SUMMARIES	TRAINING AIDS
Contractors	There will always be a need to maintain, improve and develop airport facilities. Most of this work will be carried out by contractors. Before any contracting staff start work they too are required to attend induction training including a video about working airside. Contractors are required to follow the same safety standards as all other employees working airside. Nevertheless, some contractors can put their own, or other peoples safety, in jeopardy through ignorance, or inexperience. Explain to trainees that if they see a contractor's member of staff doing something which endangers airside safety they should tell the contractor the error of his ways or contact Airfield Operations on Extn _____*. Build up a good working relationship with contractors in your area if their work interfaces with your company's activites.	Mention any work being carried out by contractors in or around your company's area of operation in airside areas.	
Drink and Drugs	Airside is no place for anyone whose judgement or alertness is affected by drink or drugs. Anyone caught drinking or taking drugs or simply under their influence will be disciplined and may be sacked. Remember, you can still be under the influence of alcohol the day after a night of heavy drinking.	Quote your company's policy on drink and drugs.	
SECOND SUMMARY	You may wish to break the instruction at this point.	Summarise the key points so far.	

** Insert the correct telephone number for your airport.*

SUBJECT	KEY POINTS	QUESTIONS/LINKS/SUMMARIES	TRAINING AIDS
REPORTING ACCIDENTS AND FAULTS	By law serious accidents or dangerous occurrences to people must be reported as soon as possible to the Health and Safety Executive. However, it is also a requirement that serious accidents on the ramp are reported to the Police and Airfield Operations. As soon as practicable after an accident phone the airport exchange emergency number – and give the main details. The exchange supervisor will then contact the correct services. When there has been a serious accident do not move any equipment/vehicles/ plant until an investigation has taken place unless of course there is a greater hazard in leaving them in place. Also note the names of any witnesses to the accident.	Refer to the accident reporting procedures for your company.	
Reporting Faults	Always report faults which affect safety as quickly as possible. If the fault is outside your company's control and is potentially very serious, such as a problem you have noticed with an aircraft, then phone the airport emergency number giving details. Less serious hazards, such as a pothole in the road, can be faulted to Airfield Operations on Extn ____*.	Refer to OHP 'Reporting Accidents and Faults'	OH12
NB In these training notes the word 'accident' is taken to mean any injury, damage or dangerous occurrence.			

SUBJECT	KEY POINTS	QUESTIONS/LINKS/SUMMARIES	TRAINING AIDS
SAFETY RULES	Safety rules and procedures are covered by *Operational Safety Instructions issued by the *Airport Director. They cover such subjects as driver training, no smoking policies and changes to road layouts. All staff are required to follow them. Some health and safety aspects such as the protection of hearing may be covered by airport *safety notices. Refer here also to the company's own health and safety procedures which relate to working in ramp areas. Tell staff where these rules are kept. Any safety rules specific to the work the trainees carry out must be covered during this training.	Have copies of airport operational safety instruction, airport safety instructions and your own company's safety rules available for staff to see.	

** Amend to correct title/description for your Airport.*

SUBJECT	KEY POINTS	QUESTIONS/LINKS/SUMMARIES	TRAINING AIDS
FINAL SUMMARY	Remind trainees of the key points. Run through them or use an overhead containing the main points.	OHP 'Ramp Safety Key Points'	OH13 a & b
END OF SESSION TEST	Use the prepared multi-choice question paper to test how much the trainees have understood the whole session. If this presents problems for those with reading difficulties, then run the test orally. It may be an idea to run the test at a later date to see how much has really sunk in. Collect in the papers and mark them and issue results as soon as possible. Establish a pass mark for your company. The recommended pass mark is 70%. You will need to decide what action to take if any member of staff does not perform adequately at the test.	Issue the end of session test. Have spare pens/pencils available if needed.	Test papers

SUBJECT	KEY POINTS	QUESTIONS/LINKS/SUMMARIES	TRAINING AIDS
CLOSE	Close the course. Thank trainees for their attention. Tell them how safety is monitored on the ramp and who to contact if the have any problems with safety – or good ideas to improve it. Give them any key names concerned with safety – safety reps, first aiders, safety officers, managers/ supervisors. Explain how the company will be measuring the effectiveness of safety on the ramp and put across the importance of putting safety first – always. Let them know when they will get the results of their tests and the next stage in their training. Wish them good luck, stay safe etc.	Refer to an OH slide or publication with the names of these appointments.	Locally produced OH Slide.

RAMP SAFETY CODE
END OF SESSION TEST

Name: _____ Section:_____ Location: _____

All these questions have one correct answer. Tick (a), (b), (c), or (d) whichever answer you think is correct.

1 The boundary between the apron and taxiway is marked by?

(a) A single yellow line.

(b) A double white line.

(c) A double yellow line.

(d) A single white line.

2 The interstand clearway is marked by?

(a) A single white line.

(b) A dotted white line.

(c) A single white line with zig zags inner border.

(d) White hatched areas boarded by single white lines.

3 What is the best indication that an aircraft on the stand is about to start its engines?

(a) The engineer puts his hearing muffs on.

(b) Refuelling is stopped.

(c) The jetty is pulled away.

(d) Its anti-collision lights start flashing.

4 What is the policy for wearing hearing protection in airside areas?

(a) Carry ear defenders with you and wear them during noisy activities.

(b) Wear ear defenders at all times in airside areas.

(c) Wear ear defenders when on the stands.

(d) Wear ear defenders when the others put them on.

5 What is the policy for wearing high visibility clothing?

(a) Wear it during the dark or poor visibility.

(b) Wear it when on the stands.

(c) Wear it at all times when working airside.

(d) Wear it only in the winter.

6 Which of the following hazards on the ramp results in the most accidents?

(a) Aircraft engines.

(b) Dangerous chemicals.

(c) Fixed electrical ground power.

(d) Vehicles.

7 If you see a piece of wood (or FOD) lying about on the stand what do you do?

(a) Pick it up and put in a FOD bin.

(b) Kick it off the stand.

(c) Pick it up and throw it to the head of stand.

(d) Report it to your supervisor.

8 What is the policy for smoking in airside areas?

(a) You must not get caught.

(b) No smoking anywhere airside except the baggage sort halls.

(c) No smoking anywhere except in smokers rooms in permanent buildings.

(d) You can smoke if your supervisor says so.

9 What is the speed limit on airside roads?

(a) 15mph.

(b) 30mph.

(c) 20mph.

(d) Depends on the conditions.

10 You are working on the stand when there is a leakage of fuel from the fuel hydrant system. What do you do first?

(a) Put your cigarette out.

(b) Run to the head of stand and hit the emergency cut-off button.

(c) Dial the airport emergency number on the stand phone for the emergency services.

(d) Find something to mop it up with.

11 You come across a leaking container which has a skull and crossbones symbol on it. What do you do first?

(a) Sniff it to see if you can identify it.

(b) Dial the airport emergency number for the Fire Service.

(c) Try to mop it up with anything handy.

(d) Tell everyone not to panic.

12 You see a contractor working on an adjacent stand wander away from his site towards an aircraft which is being prepared for pushback. He isn't wearing ear defenders or a high visibility jacket. What do you do?

(a) Look for someone from airfield operations.

(b) Tell your supervisor that someone isn't wearing the correct PPE.

(c) Try to contact the Police on the airport emergency number.

(d) Run up to him and escort him back to his site.

13 Which of the following areas is out of bounds to pedestrians?

(a) The area behind the blast screen.

(b) The hatched area under a jetty.

(c) Interstand clearways.

(d) Taxiways (except for push-back operations).

14 What is the best position for lifting a fairly heavy load?

(a) Load away from feet, legs straight, bent back.

(b) Down on one knee, back straight, arms bent.

(c) Load close to feet, legs bent, back straight.

(d) Load away from feet, bent legs, good grip.

15 You are with a mate alone on a remote stand manhandling a train of dollies when his leg is caught between two of the dollies. There is not much bleeding but the leg is already puffed up and probably broken. What you should do first?

(a) Try to treat him yourself.

(b) Make sure he is comfortable and safe and telephone for an ambulance.

(c) Inform the Police.

(d) Look for someone to help you.

16 Who is required to be informed of serious accidents at work by law?

(a) The airport safety manager.

(b) A safety representative of your company.

(c) A factory inspector at the Health and Safety Executive.

(d) The Police.

17 Where would you find details of changes to the layout of the airside road because of development work?

(a) In Operational Safety Instructions.

(b) In Airport Directors Notices.

(c) In Terminal Managers instructions.

(d) In your company's operational orders.

18 If you saw a damaged package in the middle of the road which had the following sign on it what would you do *first?*

(a) Run like hell.

(b) Pick it up and put it out of harms way.

(c) Dial the airport emergency number from the nearest phone and ask for immediate help.

(d) Do your best to stop traffic and keep people away.

19 Whilst an aircraft is being prepared for pushback you notice the skin on the pod of one of the aircrafts engines has obviously received a bit of a knock. What do you do?

(a) Keep quiet – the damage doesn't look too serious.

(b) Start waving at the pilot to attract his attention.

(c) Report it at once to the engineer in charge of the pushback.

(d) Telephone for airfield operations.

20 You watch an aircraft taxying past your stand on its way to take-off. No one is with you. To your horror you notice what looks like a hatch hanging open under the fuselage. What is the best course of action?

(a) Run to a telephone and dial the airport emergency number with details of the aircraft.

(b) Run after the aircraft waving your arms.

(c) Look around for someone to radio the control tower with details of the aircraft.

(d) Report it to your supervisor.

RAMP SAFETY CODE

END OF SESSION TEST

ANSWERS

Notes to Instructor

You may find that not all the questions in this test fit in exactly to the requirements for your airport. For instance the airside speed limit of 20 mph does not apply to all airports. You will therefore need to modify questions such as this to fit your airport. You can also add questions of your own.

The pass mark has been set, arbitrarily at 70%. However, certain questions are so important that everyone should get them right. You may wish to make these questions mandatory to answer correctly whilst allowing some discretion for failure with the not-so-critical questions. It's up to you but remember, when it comes to safety, high standards must be set.

Current Answers

1 – (b)
2 – (c)
3 – (d)
4 – (a)
5 – (c)
6 – (d)
7 – (a)
8 – (c)
9 – (c)
10 – (b)
11 – (b)
12 – (d)
13 – (d)
14 – (c)
15 – (b)
16 – (c)
17 – (a)
18 – (c)
19 – (c)
20 – (a)
(note (c) would be the best answer if a radio message could be made to the Control Tower quickly)

TRAINING COURSE REPORT

NAME:	
DEPARTMENT:	
COURSE:	
DATE:	


PLEASE RETURN TO:

HOW WOULD YOU RATE THE .....

1 Pace of Training

SLOW						FAST

2 Style of Training

POOR						EXCELLENT

3 Organisation of the Course

GOOD						EXCELLENT

4 Pitch of Training

POOR						EXCELLENT

5 Overall Rating

POOR						EXCELLENT

6 Who nominated you for the course and why?

7 List below any personal objectives discussed with your line manager prior to the course?

8 To what extent were the general course objectives met?

9 How useful was the course material to your role and meeting your personal objectives?

10 What aspects of the course material would extend or reduce?

11 What changes might improve the stye of presentation?

12 Have you any further comments concerning the course or the administration etc?

ATTENDANCE REGISTER

COMPANY: _____

TITLE OF COURSE/TRAINING: _____

NAME OF INSTRUCTOR: _____

DATE: _____

DELEGATE'S NAME	PAY NO.	SECTION/DEPT	SIGNATURE

“THE RAMP SAFETY CODE”

INTRODUCTION SAFETY TRAINING FOR RAMP SAFETY

WHAT DO RAMP ACCIDENTS REALLY COST EACH YEAR TO UK AIRLINES?

* FATALITIES
* SERIOUS INJURIES
* TIME OFF WORK
* COST OF INVESTIGATING ACCIDENTS
* COMPENSATION
* REPAIRS TO A/C AND EQUIPMENT
* KNOCK ON OPERATING COSTS CAUSED BY DELAYS, CANCELLATIONS ETC.

REDUCE ACCIDENTS AND EVERYONE WINS

INDUCTION TRAINING

'RAMP SAFETY CODE'

OBJECTIVES

At the end of the training you will be able to:-

A) ANSWER CORRECTLY QUESTIONS ON THE KEY FACTS ON RAMP SAFETY

B) ANSWER CORRECTLY QUESTIONS ON THE CONTROL MEASURES USED TO DEAL WITH THE MAIN HAZARDS IN YOUR AREA.

C) PUT THE RAMP SAFETY CODE INTO PRACTICE AT ALL TIMES WHEN WORKING ON THE RAMP.

MAIN DANGERS FROM AIRCRAFT ON THE GROUND

1 Engine blast.

2 Engine suction.

3 Being hit or run over.

4 Excessive noise.

MAIN NON-AIRCRAFT HAZARDS ON THE RAMP

* VEHICLES

* MANUAL HANDLING

* FOD

* ADVERSE WEATHER

* FUEL

* SMOKING AIRSIDE

* SPILLAGE OF DANGEROUS GOODS

* INEXPERIENCED CONTRACTORS

* DRINK AND DRUGS

AIRSIDE DRIVING CATEGORIES

Licences for different categories of airside areas are issued subject to successful completion of training and examination

CATEGORY A - SERVICE ROAD ONLY

CATEGORY B - SERVICE ROADS, STANDS, CLEARWAYS AND CROSSINGS

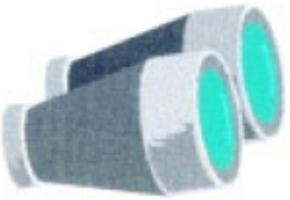
CATEGORY C - MANOEUVRING AREAS

Training in the driving and operation of specialist vehicles eg. electric tugs, FMCs, forklifts etc. is given by the Company

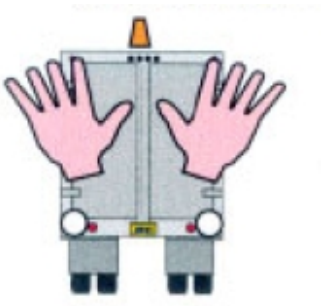
DRIVING AIRSIDE

KEY POINTS

* 20mph speed limit
* Obey all signs and follow road markings
* Always keep a good lookout



* Ensure any load is secure
* Don't drive vehicles with safety fault (eg. poor brakes, flat tyres)
* Reverse only with external guidance



MANUAL HANDLING

AVOID STRAIN INJURIES

- Back straight, use legs
- Avoid twisting, bending
- Wear gloves and safety shoes
- Use correct handling equipment
- Get help with heavy loads

DEALING WITH FOD

If you see FOD = Pick it up and put it in FOD bin.

If too big = Report it to Airfield Operations

ALWAYS TIDY UP AFTER YOU. DON'T LEAVE ANYTHING LYING ABOUT.

OPERATING IN SEVERE WEATHER

HIGH WINDS

Tie down or secure anything which can blow away.

SNOW & ICE

Keep your area clear of snow and ice.

Don’t spill anything which may freeze.

Road markings can be covered - know where you are.

Don’t use salt.

DANGEROUS GOODS

DEALING WITH SPILLAGES

1 Follow in-house procedures

2 Identify the substance

3 Contain the spillage

4 If serious - Call the Airport Fire Service on 222

If toxic or radioactive keep people well away

REPORTING ACCIDENTS AND FAULTS

ACCIDENTS

Always report to your management -

Any injury
Any damage
Any dangerous occurrence

IF SERIOUS

Report accident or damage on 222.

REMEMBER

Failure to report damage to equipment or an aircraft could cost lives (and your job).

RAMP SAFETY KEY POINTS

When in ramp areas:

- Keep clear of aircraft with engines running or with anti-collision lights running.

- No smoking.
- No alcohol or drugs.
- Don’t drive or operate anything unless trained and fit.
- Don’t walk in taxiways.
- Wear high viz clothing.
- Carry ear defenders - use when noisy or in signed hearing protection zones.

- Clear up rubbish.
- Put FOD in FOD bins.
- Dial your local emergency number for any emergencies.
  - ☎ Fire
  - ☎ Dangerous spillages
  - ☎ Serious accident
- Report all accidents and damage.
- Keep to the speed limit.
- Lift and handle loads with care.
- Stay alert - think of others.

Appendix C Model Driver Training Lesson Plans (Modules) and Airside Driver Training Scheme

1 INTRODUCTION

This Appendix sets out the guidelines for driver training for airside and landside operations. Detailed training modules (lesson plans) have been compiled by qualified staff to cover every vehicle and specialist piece of equipment currently operated by our staff. These are an integral part of the driver training programmes which are in two parts. It is suggested that any staff involved in driver training are suitable trained and qualified to RTITB/NVQ or equivalent standards.

1.1 These detailed training modules will ensure that staff maintain the highest levels of competency and safety, both on airside and landside.

2 DRIVER TRAINING REQUIREMENTS

Driver Training Programme/Assessments may be carried out separately in two parts, however, both parts must be completed prior to driving airside.

2.1 Driver Training – Part 1

2.1.1 Part 1 covers the safe competent operation of the vehicle/equipment as would be detailed in a lesson plan and will involve a written test and practical assessment. On completion, the applicant will be issued with a Company Driving Permit that authorises the named driver to drive Company vehicles landside. It does not give the authority to drive airside until Part 2 of the training programme has been completed.

2.1.2 There are statutory requirements to be considered for certain types of specialist equipment, e.g. fork lift trucks. When such training is provided by the manufacturer or a commercial training organisation, it will be reflected in the airport's overall training programme. However, outside training will not cover the skills required and the peculiarities of operating these specialist vehicles/equipment in an airport environment, therefore it is essential to include this in the lesson plans.

2.1.3 The training modules also detail the frequency of refresher training. This is dependent upon the type of vehicle and frequency operated, but on average will be every two years. It is intended to use the same basic driver training syllabus, as detailed in the modules, for the refresher training. All training and validation will be recorded. It will be the individual's responsibility to ensure that their permit remains valid for each type of vehicle they are authorised to drive/operate. Details of airside driving permits should be retained by the training manager.

2.1.4 Refresher training may also be required to be carried out prior to the permit expiry date if deemed necessary by the issuing or sponsoring department e.g. if an individual has been involved in breaches of airside regulations or involved in a vehicle or aircraft accident.

2.1.5 Accident reporting procedures are contained at the end of each lesson plan. There is also a section on personal safety covering hearing, eyesight and personal protection, such as the wearing of high visibility clothing and hearing protection. It will also include where appropriate, a warning of the dangers of working in the vicinity of operational machinery, in particular, the dangers of loose fitting clothing.

2.2 Driver Training – Part 2

2.2.1 Part 2 is designed to test and demonstrate the trainee's detailed knowledge of the following:

- Airfield Procedures.
- Aerodrome signs.
- Topography.
- Painted surface markings.
- Safety awareness
- Airfield lighting.
- RT procedures where required. (See also Appendix D).

2.2.2 The programme should involve a written examination and a practical assessment which will be carried out on completion of a training programme.

2.2.3 The practical assessment is not designed to assess the driver's ability or competence to drive/operate the vehicle, but to test the applicant's knowledge of airside procedures. Driver training should include day, and where appropriate, night time familiarisation. This will be carried out after the individual has had detailed training in accordance with Part – 1 of the training module with respect to the relevant vehicle/piece of equipment. The module can be part of an individual's overall induction training e.g. a baggage loader could undertake limited supervised driving duties whilst learning the correct method of baggage loading procedures and any other induction training as necessary. Night time driving familiarisation should also be carried out during this module. Supervisors and line managers should also be aware that during periods of low visibility and inclement weather, staff who have not had the opportunity to drive in these conditions should be tested to ensure they are fully conversant with and understand the requirements/regulations. On completion of the training, the applicant should sit a written examination and undertake practical assessment. If a satisfactory pass mark is obtained, an airside driving permit will be issued.

2.2.4 The practical assessment airside need only be carried out in one of the types of the vehicles listed on trainee's permit. However, it would be preferable if the applicants were to present themselves for testing with a suitable vehicle and one that they would normally use in their work. The purpose of this test will be to assess the driver's ability to demonstrate their safety awareness and knowledge of airside regulations and procedures and his/her application of these skills. This will also include the correct use of RT procedures if a manoeuvring area permit is required.

2.2.5 A typical Airside Driver Training Scheme will include both formal classroom training and testing and practical familiarisation, training and assessment. The formal classroom training should use the best instructional techniques and training aids available and should consider using Computer Based Training (CBT) and videos such

as 'The Airside Code' and 'Airside Safety Management'. Practical training should be undertaken in the trainees normal vehicle for work and dovetailed into the classroom training to proved the most efficient training package.

3 DRIVER TRAINING MODULES

3.1 The training package should include the following topics as a minimum and may be supplemented by local requirements. Please note that some of these modules will involve both formal classroom training and practical training on the airfield.

3.1.1 *Requirements (General to all Airports)*

- The Air Navigation Order.
- CAP 168, The Licensing of Aerodromes.
- Health and Safety Legislation.
- CAP 642, Airside Safety Management.

3.1.2 *Requirements (Local to issuing Airport)*

- Bye-laws.
- Conditions of Use.
- Airport Operational Instructions.
- Airport Safety Instructions.

3.1.3 *Airport Layout*

- Surface markings and signs (for both vehicles and aircraft).
- Prohibited areas.
- Speed limits.
- Parking areas and restrictions.

3.1.4 *Personal Responsibilities*

- Fitness to Drive (medical standards).
- Personal Protective Equipment (hearing, foot, high visibility clothing etc)

3.1.5 *Vehicle Standards*

- Condition of the vehicle.
- Safety requirements of the vehicle.
- Displaying of lights (general and obstruction).
- Reversing.

3.1.6 *Rules for Operating at Night and in Low Visibility*

- General and local rules.

3.1.7 *Hazards*

- Danger zones around aircraft.
- Fuelling of aircraft.
- FOD (Foreign Object Debris).
- Pedestrians

3.1.8 *The Role of:*

- The Civil Aviation Authority (CAA).
- The Police.
- Enforcing Agencies (HSE, Local Authority etc.).
- Aerodrome safety units.
- The Air Accident Investigation Board. (AAIB).

3.1.9 *Security Procedures*

- Personal requirements (ID Cards) & exemptions where applicable.
- Vehicle security permits.
- Restricted/controlled security zones.

3.1.10 *Emergency Procedures*

- Action in the event of an accident.
- Action in the event of a fire.
- Action in the event of an aircraft accident or incident.
- Reporting procedures.
- Action in the event of a fuel/dangerous cargo spillage.

3.1.11 *Penalties for non-compliance*

- General and local penalties. (See also Part 7).

Appendix D Model Radio Telephony Training Procedures

1 INTRODUCTION

1.1 The means by which Pilots and Ground crew can communicate with Air Traffic Control is by the use of Radio Telephony (RTF).

1.2 The information and instructions transmitted are of vital importance to the safe operation of aircraft and vehicles on the airfield. It is vital therefore that RTF is used properly.

1.3 The objective of this model is to provide training guidance to airport and operators's drivers who have to use the manoeuvring area in the course of their duties and thus are required to communicate with ATC. The requirements are stringent, but not so broad as for those operating an aeronautical ground radio station, for which formal professional training, examination and a certificate of competence are required.

1.4 The safe and efficient use of RTF depends on the abililities of the operators, following training. Poor delivery may affect communications causing widespread confusion on the manoeuvring area, thereby creating a potentially hazardous situation.

1.5 Aerodrome managers are recommended to establish a formal training course in conjunction with the agency providing ATC for their aerodrome. This model may be adapted to meet the requirements pertaining to your aerodrome.

1.6 For full and complete details see CAP 413, Radio Telephony Manual.

2 TRANSMITTING TECHNIQUE

2.1 Before you transmit, check that you are on the correct frequency and that the receiver volume is set at the optimum level. First, listen out to make sure that you can hear the radio above the vehicle noise. It is also important to ensure that the radio can be heard at all times above ambient, background noise, for example, aircraft engines.

2.2 When you transmit use a normal conversation tone, speak clearly and distinctly, maintaining an even rate of delivery.

2.3 Do not move your head away form the microphone whilst talking, or vary the distance between the microphone and your mouth. Severe distortion will arise from talking too closely to the microphone or touching it with your lips.

2.4 It is very important to keep a continuous listening watch, not only to receive instructions, but also to be aware of the movement of other traffic around you, thereby reducing the risk of conflict.

2.5 Potentially, one of the most dangerous situations is that of 'Jamming' the frequency. This is easily done with a 'stuck' microphone button. You must ensure that the button is released after transmission and that it is not left in a position that may inadvertently switch it on.

3 PHONETIC ALPHABET

3.1 The Phonetic alphabet was created to assist clear transmission of RTF. It uses words for individual letters of the alphabet and is used particularly in abbreviations, aircraft registrations and such as the identification of parking areas.

3.2 A table of the appropriate word relating to the letter can be obtained through your facilitator or training unit. See the Annex to this Appendix.

3.3 It is important that you are fully conversant with this alphabet.

4 STANDARD ABBREVIATIONS

4.1 As well as using the phonetic alphabet, clear transmission is aided by the use of standard abbreviations. As an operator it is your responsibility to know and understand the use of certain words and phrases. These words and phrases have been prescribed by International Civil Aviation Organisation (ICAO) to aid standardisation and understanding.

Phrases such as:

AFFIRM	–	YES
NEGATIVE	–	NO OR PERMISSION NOT GRANTED OR THAT IS NOT CORRECT
APPROVED	–	PERMISSION GRANTED
DISREGARD	–	CONSIDER THAT TRANSMISSION AS NOT SENT
I SAY AGAIN	–	I REPEAT FOR CLARITY OR EMPHASIS
ROGER	–	I HAVE RECEIVED ALL YOUR LAST TRANSMISSION
WILCO	–	I UNDERSTAND YOUR MESSAGE AND WILL COMPLY WITH IT

4.2 A table of the appropriate word or phrase and its meaning can be obtained through your facilitator or training unit.

5 READABILITY SCALE

5.1 To check on the readability of your transmission the following scale is used:

- Readability 1 UNREADABLE
- Readability 2 READABLE NOW AND THEN
- Readability 3 READABLE WITH DIFFICULTY
- Readability 4 READABLE
- Readability 5 PERFECTLY READABLE

5.2 If your radio is transmitting or receiving anything less than readability 4 then you should not proceed onto the airfield before having the radio checked.

6 ESTABLISHING COMMUNICATIONS

On your initial transmission there are two things to remember in establishing two-way communication. These are as follows:

- Use the recognised callsign of the controlling authority.
- Follow it with your own callsign, which in this exercise is 'Fastways Tug One'.

For example: you transmit as follows:

'Manpool Ground, this is FastWays Tug One'.

Because you have started the message with 'Manpool Ground' the controller will recognise that you are making first contact, and reply:

'FastWays Tug One, this is Manpool Ground pass your message'.

You must now inform the controller of your intention, for example:

'FastWays tug One, request to push back FastWays Delta Alpha from Stand Bravo 21 and reposition on Foxtrot 14.

In those two transmissions, two way communication has been clearly established.

7 CONTINUING COMMUNICATIONS

7.1 Once two way communication has been achieved you must now reply to every instruction given to you by ATC, for example:

'FastWays Tug One, Pushback approved, report ready to tow'.

You may reply:

'Push back approved, report ready for tow. FastWays Tug One.'

7.2 Once the aircraft is moved into position, inform ATC that you are ready to continue, as follows:

'FastWays Tug One, is ready to tow'.

The ATC controller may reply:

'FastWays Tug One, tow approved, turn right on the inner taxiway and report holding in block 52'.

You must reply:

'Right on the inner taxiway hold in block 52, FastWays Tug One'.

7.3 Even though the controller has instructed you to proceed you must always remain alert to what is going on around you and remember to advise the controller when you have complied with each (the latest) instruction. On arrival in block 52 you would advise the controller as follows:

'FastWays Tug One, holding in block 52'.

The ATC controller may further advise as follows:

'FastWays Tug One, after the AirMed Boeing 727 from your right, tow approved to Foxtrot 14 and report parked'.

You would repeat the message to show that you had read the transmission from ATC correctly. *'After the Air Med Boeing 727 tow approved, FastWays Tug One'.*

7.4 Note how all communications contain the identification of your vehicle. This is to ensure that no confusion will arise as to who the message is addressed to.

On arrival you would transmit as follows:

'FastWays Tug One, parked on Foxtrot 14'.

The ATC controllers would acknowledge your call and close the communication.

NOTE: Throughout this brief training session we have been using the Phonetic Alphabet and standard phrases.

8 POINTS TO REMEMBER

8.1 There are many points to remember as you go about your airside tasks, but the following are the golden rules:

- Never proceed on your journey without the authorisation of ATC.
- Listen out for your callsign and be ready to reply immediately.
- ATC may have to amend the clearance previously given, while you're travelling on your journey. You may be instructed to hold position or to give way to another aircraft or vehicle.
- At all times you must be alert to the changing situation around you.

9 RUNWAY CROSSINGS

9.1 One of the most critical parts of your journey around the airfield will be when you are required to cross an active runway. For this reason strict guidelines have been established for the safety of all operators on the airfield. Permission to cross a runway is obtained from the controller responsible for that runway. The driver must inform ATC that he has reached the point at which he is is ready to cross.

Here is one scenario and you are just holding short of the runway ready to cross. You would say :

'FastWays Tug One, holding in block 78, short of Runway 28'.

Listen carefully as the controller may not be able to give you immediate clearance. For example:

'FastWays Tug One, hold position, I will call you'.

The message from ATC must be acknowledged, even if the vehicle is required to hold its position.

'FastWays Tug One, holding'.

9.2 The controller will now be waiting for a space in the runway traffic to be able to clear you across the runway and may continue as follows:

Fast Ways Tug One, after the landing Air Wing A320, cross runway 28 and report vacated'.

You must repeat the message as before:

'After the landing Air Wing A320, cross runway 28 and report vacated, FastWays Tug One'.

You are required to inform ATC when you are completely clear (includes tail of aircraft) of the runway and have completed the last instruction:

'FastWays Tug One, runway 28 vacated'.

9.3 In this critical part of the journey there are several things to remember:

- ATC instructed you to give way to another aircraft. This will ensure that you obey the warning before proceeding across the runway.
- You must reply to the message in full. This is to assure the Controller that the whole message is received and understood.
- You are required to inform the controller when you are clear of the runway by making the 'Runway Vacated' call. Until you make this call, ATC will consider that you are blocking the runway.

10 RADIO FAILURE

10.1 You should be aware that there may be problems associated with establishing radio communications with ATC. Local reception may be poor; the frequency could become jammed or your radio could become unserviceable. If any of this should happen to you, you may be able to communicate with ATC on a different frequency or contact your own operations, through your own domestic channel to call for assistance.

10.2 As each situation presents itself several factors will govern the way you react. A great deal will depend on where you are. In many circumstances it is wise to HOLD POSITION and wait for assistance, however if you are in the process of crossing a runway at the time it would be prudent to vacate it before holding and seeking assistance. The ATC controller will eventually realise that there is a problem and take steps to retrieve the situation according to the procedures that are adopted by the Airport Authority.

10.3 When you lose RTF communications with the ATC controller, look towards the tower for light signals.

11 A SUMMARY OF RULES FOR SAFE RTF OPERATION

- Never attempt to start a journey if you have a faulty radio.
- Always maintain a listening watch on the appropriate frequency.
- Never interrupt a conversation already taking place.
- Always know the message you are about to say before you transmit.
- If you miss some part of the message, or do not fully understand the message given to you, ask the controller to repeat the message in full.
- Never assume a message is for you if you do not hear your callsign.
- Always repeat an instruction in full when crossing a runway.
- Never switch off your radio until your journey is completed.
- And finally, know and understand your own airport's rules and regulations,they will supplement the information given in this brief introduction.

12 RTF LICENCE/CERTIFICATE COMPETENCY

12.1 There is no regulatory requirement for licensing of personnel that communicate by RTF with ATC by virtue of their duty in driving on the manoeuvring area. However, it is recommended that following formal training, all candidates are tested/examined for safe practice and a certificate issued by, or on behalf of, the airport authority.

ANNEX TO
APPENDIX D

THE PHONETIC ALPHABET

For reasons of safety and clarity each letter in the alphabet is given a distinct name and you will find that the phonetic alphabet is used all the time. Aircraft are referred to you by their registration, flight number, or their callsign.

The alphabet is as follows:

A	ALPHA	AL FAH
B	BRAVO	BRAH VOH
C	CHARLIE	CHAR LEE
D	DELTA	DELL TAH
E	ECHO	ECK OH
F	FOXTROT	FOKS TROT
G	GOLF	GOLF
H	HOTEL	HOH TELL
I	INDIA	IN DEE AH
J	JULIET	JEW LEE ETT
K	KILO	KEY LOH
L	LIMA	LEE MAH
M	MIKE	MIKE
N	NOVEMBER	NO VEM BER
O	OSCAR	OSS CAH
P	PAPA	PAH PAH
Q	QUEBEC	KEH BECK
R	ROMEO	ROW ME OH
S	SIERRA	SEE AIR RAH
T	TANGO	TANG GO
U	UNIFORM	YOU NEE FORM
V	VICTOR	VIK TAH
W	WHISKY	WISS KEY
X	X-RAY	ECKS RAY
Y	YANKEE	YANG KEE
Z	ZULU	ZOO LOO

Part 7 Performance Management

CONTENTS

1 INTRODUCTION TO PART 7

1.1 The term Performance Management is used here to reflect a structured process of management and involves personal performance, monitoring, target setting, measuring, supervising, rewarding and disciplining.

1.2 This Part gives guidance to Managers and Supervisors on performance management, including enforcement and discipline aspects of the overall safety system, it includes the following topics:

(a) The fostering and maintenance of safety discipline.

(b) Active performance management.

(c) Investigation of accidents and incidents.

(d) Enforcement of regulations.

(e) Implementation of remedial action.

2 THE FOSTERING AND MAINTENANCE OF SAFETY DISCIPLINE

2.1 One of the prime contributory factors for the establishment and maintenance of effective safety discipline is an open and honest accident/incident reporting system. Such a system will create a better environment of trust at all levels and will facilitate learning from common experiences and contribute to the prevention of accidents. A sound reporting system will make due allowance for the honest genuine mistake. However, there is no place in the air transport industry for ill-discipline or lack of professionalism.

2.2 It is imperative that the industry reduces the statistically high percentage of aircraft damage that is not reported, but 'found'. It follows that probably the most important task is to establish a non-threatening or 'no-blame' culture for the genuine mistake which is honestly reported. It is in the general interests of the industry to reduce damage (and thus costs) to aircraft and equipment and it is everyone's responsibility to do their utmost to prevent injury to personnel. However, of paramount importance is the need to avoid aircraft departing with unreported and unknown damage. Such incidents are potential catastrophic accidents. Experience has shown that the major disincentive to reporting accidental ground damage is the fear of dismissal or other punishment.

2.3 Not only is unreported damage potentially lethal but it also precludes investigation and subsequent remedial action aimed at preventing a recurrence: a significant disadvantage when statistics show that accidents have often been presaged by earlier similar incidents. Everyone must be made aware that in any accident, the most serious offence is failure to report. It follows that keeping quiet about an accident or incident will negate the 'no-blame' policy. Any subsequent disciplinary action will reflect the seriousness of the failure to report.

2.4 To foster the comprehensive reporting of accidents and incidents, aerodrome managements should encourage the adoption of effective safety reporting systems and these should be brought to the attention of every employee and adopted by all the other organisations that have an airside role. The safety reporting system should be headed by a formal statement, such as the example given at Appendix A and signed by the company chairman or chief executive. What should flow from this policy

statement is an instruction to all staff on the subject of the reporting of aircraft ground damage. See the model at Appendix B.

2.5 Safety-awareness and Performance Management should be fostered by everyone as part of normal working activity. Both are a function of line management and should not be regarded by either management or employees as separate issues that are the sole responsibility of specialist safety staff. The Aerodrome Licensee should take particular care to see that his own Performance Management arrangements and staff attitudes are exemplary and that they are seen to be so by other organisations and persons working airside.

2.6 Although this Part sets out below some advisory practices on enforcement of regulations etc, fostering and maintenance of safety discipline should also operate on the reward principle. Good standards and operating practices should be recognised when observed. Performance Management should not be confined to seeking out low standards, bad operating practices and breaches of regulations, but the overall Performance Management system should include procedures for recognising, highlighting and possibly rewarding good performance.

2.7 One cause of airside accidents is where personnel trained for low skill tasks are required to carry out these tasks in a 'high-tech' environment. Managers and Supervisors must ensure that selection and training recognise the full operational safety requirement: that is, selection and training satisfy the needs of the task and the environment within which the task is to be undertaken.

3 ACTIVE PERFORMANCE MANAGEMENT

3.1 Airside Safety Performance Management should be pro-active, rather than reactive at all levels of the management structure. Monitoring should be part of the daily routine, not a set piece procedure kept 'on ice', for use only following an incident or accident. Performance Management should be an accepted part of the overall responsibilities of all management and supervisory personnel. Although large organisations might have staff dedicated to full-time safety monitoring, Performance Management is a line management responsibility – it cannot be delegated!

3.2 Very few, if any, airside operations procedures or working practices occur in total isolation. Many airside operations involve co-operation, both formal or informal between two or more departments of an organisation and often between two or more separate organisations. This is a complex matrix that requires good understanding and agreement. It is clearly advantageous, and in many cases necessary, for line managers to work closely with their counterparts from other departments or from other organisations. The benefits of co-ordination are obvious: increased rapport, a mutual exchange of safety-related information and the same standards of safety discipline applied across the whole aerodrome operation. It is the Aerodrome Licensee who should act as the focal point in co-ordinating best practice for all organisations on the aerodrome; for example, by acting as the Chairman of the Airside Safety Committee. The managers and supervisors of all airside operators should spend a significant proportion of their time and effort physically present on airside working areas. Their role should include observation of, and participation in, all aspects of airside work carried out by their staff and indeed the staff of other organisations where it can be seen that airside safety could be improved.

4 INVESTIGATION OF ACCIDENTS AND INCIDENTS

4.1 It should be the primary aim of any investigation following an accident or incident to establish the facts of the matter in order to prevent a recurrence. Managers are reminded that beyond the requirement of internal procedures, some occurrences and accidents fall within statutory reporting requirements. These requirements are set out in descriptive material covering the MOR scheme (CAP 382), The Investigation of Accidents, Regulations and The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations, 1994. The allocation of blame for disciplinary purposes should be secondary to the objective of accident prevention. Accident or incident investigation will usually be best conducted by a line manager or supervisor. Such persons will almost certainly be most familiar with the type of operation or working practice during which the accident or incident occurred. In some cases, it may be preferable for the investigation to be carried out by a manager from a different department from that involved in the accident or incident. It is important that managers do not assume that investigations into accidents and incidents conducted under statutory provisions will necessarily meet the requirements of their own internal investigation procedures.

4.2 Any realistic investigation will have to be structured and could be assisted by the use of a proforma. The example at Appendix C is intended to be completed jointly by the investigator and those involved in the accident or incident. However, this is not a simple 'tick-box' exercise: this proforma is just one part of a more complex systematic exercise involving training on investigation, structured interviewing technique, analysis of facts, implementation of change and organisational commitment to a safety culture.

4.3 'Accidents' and 'Incidents' in the context of this Part should not be limited solely to occurrences where physical damage or injury is sustained to equipment, structures, or persons. Occurrences exhibiting a possible risk of damage or injury will also merit formal investigation, where managers consider there has been exposure to unacceptable but avoidable risk. Managers should also be aware that where an accident occurs airside it might be necessary to co-ordinate the airside safety investigation with parallel investigations by others.

5 ENFORCEMENT OF REGULATIONS

5.1 It is essential that a 'no-blame' accident and incident reporting policy is not confused with the necessity for sanctions that preserve airside safety against indiscipline. Establishing a 'no-blame' culture needs to be reconciled with the need to have formal disciplinary procedures that, at their extreme, might have the force of criminal law under airport bye-laws or legislative provisions. It is this area of Performance Management that requires the greatest management expertise, clear thinking and well documented procedures.

5.2 Some accidents and incidents will come under the jurisdiction of the CAA, AAIB, Police, or HSE and in such cases neither the Aerodrome Licensee nor the employer (if different) can interfere with the due process of law. However, there is no reason why a 'no blame' reporting system for dealing with all events cannot sit comfortably with the defined obligations under existing legislation for reporting accidents and incidents. The final stage is for the aerodrome management and the management of other agencies that operate airside to agree on what matters are contrary to published

regulations and the options and level of sanctions that could be available. Most of these 'offences' will be 'prima facie', requiring an immediate response – in the interest of safety and discipline – and most if not all will be capable of being dealt with summarily.

5.3 Each aerodrome structure is different and each management or group will have to decide what those offences are that can be dealt with summarily. The following list is not exhaustive, but is intended to stimulate ideas:

(a) Smoking airside.

(b) Driving on the Manoeuvring Area without permission.

(c) Driving in front of, or behind an aircraft with aircraft engines still running and/or anti-collision warning lights on.

(d) Failure to report damage to an aircraft.

(e) Parking in areas marked as parking unsafe or prohibited.

(f) Leaving vehicle unattended with engine running on movement area.

5.3.1 All employers at each aerodrome will need to consider their disciplinary structure in order to ensure that it is appropriate and fair. Procedures should provide proper opportunities for individuals to put their side of the case.

5.3.2 The Airport Authority should publish any penalties it has established for non-compliance with the rules and instructions whilst working airside including the use of vehicles. These may include temporary or permanent exclusion from the airside area of individuals, particular vehicles, or group of vehicle controlled by a specified vehicle operator.

5.3.3 In the interests of natural justice it will be important for any penalty system to include an appeal procedure. However, this should not prejudice the immediate exclusion of a particular individual or vehicle where, in the opinion of the airport authority, this is necessary in the interests of safety.

5.4 Although local circumstances and agreements will dictate the sanction or penalty awarded for offences, the following examples are for consideration. Again, the list is not exhaustive, but is intended to stimulate ideas:

- Verbal caution – not recorded.
- Formal verbal caution, recorded on personal employment file for specified period, then expunged.
- Formal written caution, recorded on personal employment file for a specified period.
- Temporary airside driving ban for driving offences.
- Temporary airside driving ban with requirement for retraining and testing.
- Permanent airside driving ban, for serious or persistent driving offences.
- Temporary withdrawal of airside pass.
- Permanent withdrawal of airside pass.
- Disciplinary action leading to a. Downgrading b. Suspension c. Dismissal.

5.5 The Aerodrome Licensee is responsible to the Civil Aviation Authority for ensuring that the aerodrome is safe for use by aircraft. The continuance of the aerodrome operating licence depends on the Licensee's ability to secure the continued maintenance of safety for aircraft. The Licensee should make this responsibility for safe operation quite clear to his tenants, business partners and contractors and seek compliance with appropriate safety management and performance standards.

5.6 Whilst the Aerodrome Licensee is responsible to the CAA for the safe operation of the aerodrome with respect to aircraft, all organisations and operators at an aerodrome are collectively and individually responsibility for safety in its widest sense. Some of these matters are dealt with more fully in Part 1, however it should be noted that nothing said here or within CAP 642 as a whole can absolve any person from his responsibility and accountability under the law.

5.7 Clearly disciplinary offences against safety regulations may be reported by anyone, but should be channelled in the first instance to the alleged offender's supervisor or manager. Subsequent action will depend on what arrangements are in force for disciplinary offences at each particular aerodrome. However, it is the Aerodrome Licensee who carries the responsibility and he may require to know how disciplinary offences against aerodrome safety regulations have been dealt with, in pursuit of his responsibilities. It is a matter for service providers and aerodrome licensees to reach agreement about how accidents and incidents are to be reported, recorded and investigated. Participation in the Airside Safety Committee is a good vehicle for this action. Managers are reminded that certain events will fall within mandatory reporting requirements. See para 4.1.

5.8 In some cases the Aerodrome Licensee may take action against a company or organisation, as opposed to an individual.

6 IMPLEMENTATION OF REMEDIAL ACTION

The objective of any accident or incident investigation should be to produce findings which facilitate further action aimed at prevention of recurrences. Such findings should focus on how procedures, practices, or regulations failed to prevent the accident or incident. The report should list recommendations and nominate those responsible for taking corrective action. The whole proceedings should be reviewed at senior management level with the intention of establishing what subsequent actions are required. The loop should then be closed by ensuring that all line managers and safety specialists are aware of the changes so that they can monitor their effectiveness. It is equally important to determine whether the changes identified require any changes to training syllabuses and to action accordingly.

7 CONCLUSION

Airside Safety Performance Management essentially consists of two key elements. Firstly, developing a 'no-blame' culture, based on company policy to ensure that accidents affecting aircraft and airside safety are reported, in order to protect the public and the workforce from preventable injury. Secondly, a code of discipline to secure a safe airside working environment for everyone. The outcome of effective Safety Performance Management should be seen by everyone to be:

- Educational and developmental.
- Encouraging and rewarding.
- Active rather than reactive.
- Constant rather than intermittent.
- Continuing rather than currently fashionable.
- Part of normal work rather than an isolated activity.
- A means of reducing or containing costs rather than costing money itself.
- Everybody's concern rather than that of specialists, or worse, nobody's concern.
- Punitive only as a last resort.

Appendix A – Model Company Policy Statement

REPORTING OF ACCIDENTS/INCIDENTS TO AIRCRAFT

STATEMENT BY THE CHIEF EXECUTIVE, MANPOOL AIRPORT

It is the responsibility of every person employed by Manpool Airport to report any circumstances affecting safety.

Where a reported occurrence indicates an unpremeditated or inadvertent lapse, the company hold the view that free and full reporting is the primary aim, and that every effort will be made to avoid action that may inhibit reporting.

It is not the policy of Manpool Airport to institute disciplinary procedures in response to reporting any incident affecting air safety. However, in cases where it becomes apparent that a dereliction of duty amounting to gross negligence has occurred disciplinary action could follow.

The purpose of any investigation of an accident or incident is to establish the facts and cause, and thereby prevent further occurrences. This process requires the full co-operation of all concerned throughout. It is not the intention to apportion blame or liability. Investigations will be carried out under the direction of the Operations Director.

SIGNED:

CHIEF EXECUTIVE
MANPOOL AIRPORT
1 APRIL 199

Appendix B – Reporting Aircraft Ground Damage Incidents

MANPOOL AIRPORT STANDING INSTRUCTION NO. 2/9–

1 GENERAL POLICY

It is Manpool Airport's primary concern in the interest of safety, to encourage the full and uninhibited reporting of any incident which might affect flight safety, including all aircraft ground damage incidents, however minor. It is the responsibility of every employee to report any circumstances of aircraft ground damage and to co-operate fully throughout any investigation.

2 PURPOSE OF INVESTIGATIONS

2.1 The purpose of an investigation of aircraft ground damage incidents is to establish the facts and cause, in order to prevent further occurrence. The purpose is not to apportion blame or liability. Subject to paragraph 2.1 below, investigations will be conducted by the Departmental Manager who shall determine as quickly as possible the facts of the case, in order to initiate any necessary changes to procedures, operating or engineering standards, training syllabus, modifications of equipment or other measures. This process will take place whether or not other authorities decide to carry out their own investigation.

2.2 In the event of a 'Significant Incident', as determined and defined in current Operational Safety Instructions, the Operations Director will appoint the investigator and be responsible for appointing the other members of the investigation team.

3 PUBLICATION AND PERSONAL PRIVACY

It is Manpool Airport's policy that the substance of any report following the investigation of a Significant Incident should be disseminated where possible and appropriate in the interests of safety. Manpool Airport will not, however, disclose the name of the person making a report, or of a person to whom it relates, except to the authorities of the UK or unless required to do so by law, or with the consent of the individual concerned. Manpool Airport will, accordingly, take all necessary steps not to disclose to any third party the identity of the reporter, or of those individuals in an occurrence.

4 DISCIPLINARY PROCEEDINGS

Manpool Airport's general policy is not to institute disciplinary proceedings in response to the reporting of any incident of aircraft ground damage. Only in the rare circumstances where an employee has taken action or risks which, in the Company's opinion, no reasonably prudent employee with his/her training and experience should have taken, will Manpool Airport consider initiating such disciplinary action. The fact that the employee has fully complied with his/her responsibilities to report the circumstances and co-operated fully throughout any investigation will weigh in his/her favour in the Company's consideration of the matter. However, in the event of

an employee failing to report aircraft ground damage that he/she has caused or discovered, he/she will be exposed to full disciplinary action.

5 COUNSELLING AND SUPPORT

It is Manpool Airport's policy to provide counselling and support for individuals involved in a Significant Incident, for as long as it is deemed necessary or appropriate. The employee's senior line manager, in association with the Airport's Health and Welfare Services, will ensure that this policy is applied.

SIGNED:

CHIEF EXECUTIVE
MANPOOL AIRPORT
1 APRIL 199

Appendix C – Accident and Incident Analysis and Assessment – Model Proforma

MANPOOL AIRPORT

ACCIDENT AND INCIDENT ANALYSIS AND ASSESSMENT

SECT. 1 GENERAL

REFERENCE _____
AIRLINE/COMPANY _____
INCIDENT DATE _____
TIME _____
PLACE _____
_____

ANALYST'S NAME _____
TELEPHONE _____
PREVIOUS REFERENCES _____
_____

SECT. 2 OPERATIONAL ACTIVITY AND RESULT

ACTIVITY

( ) AIRCRAFT ARRIVAL
( ) AIRCRAFT SERVICING
( ) AIRCRAFT TURNROUND
( ) AIRCRAFT DEPARTURE
( ) VEHICLE
( ) EQUIPMENT
( ) OTHER _____

RESULT

( ) AIRCRAFT DAMAGE
( ) VEHICLE DAMAGE
( ) PERSONNEL INJURY
( ) EQUIPMENT DAMAGE
( ) AIRCRAFT DELAY
( ) OTHER _____

Please provide a short narrative description of the accident, incident degradation or failure

_____
_____
_____
_____

SECT. 3 CONTRIBUTING FACTORS CHECKLIST

Instructions on completing this section:

1 Tick each contributing factor.

2 For each factor not contributing, mark 'N/A'

3 Provide brief narrative for each contributing factor

A INFORMATION

e.g. Workcards; procedures; maintenance manuals; operation orders; instructions etc

( ) Not understandable

( ) Unavailable/ inaccessible

( ) Incorrect

( ) Conflicting information

( ) Other _____

_____

Brief specific details _____

B EQUIPMENT/TOOLS/PARTS

( ) Unsafe

( ) Inaccessible

( ) Unreliable

( ) Mis-calibrated

( ) Unavailable

( ) Other(explain) _____

( ) Inappropriate to task

( ) Cannot use in intended environment

( ) No instructions for use

( ) Too complicated

( ) Incorrectly labelled

_____

Specify exactly what equipment, tool, or part, failed, was inadequate or led to the incident.

_____

_____

_____

C AIRCRAFT/EQUIPMENT/VEHICLE DESIGN

( ) Complex

( ) Not accessible

( ) Not user friendly

( ) Confusing variation between models/variants

( ) Other(explain) _____

_____

_____

D MAINTENANCE ERROR

AIRCRAFT

( ) Improper installation
( ) Equipment not installed
( ) Wrong part installed
( ) Wrong orientation
( ) Improper location

GROUND EQUIPMENT

( ) Improper installation
( ) Equipment not installed
( ) Wrong part installed
( ) Wrong orientation
( ) Improper location

E JOB/TASK/ACTIVITY

( ) Repetitive or monotonous
( ) Complex or confusing
( ) New task or task change
( ) Boredom
( ) Other(explain) _____

_____

_____

( ) Complacency
( ) Inadequate planning/prioritisation
( ) Differ from similar tasks

F QUALIFICATIONS/SKILLS

( ) Proficiency/experience level
( ) Inadequate task knowledge
( ) Inadequate process knowledge
( ) Inadequate system Knowledge
( ) Other(explain) _____

_____

_____

( ) Technician
( ) Supervisor
( ) Manager

G FACTORS AFFECTING INDIVIDUAL PERFORMANCE

( ) Physical health (including sight/hearing)
( ) Fatigue
( ) Time constraints
( ) Alcohol/drugs/medication
( ) Other (Explain. How did these factors lead to the incident?) _____

_____

_____

( ) Peer pressure
( ) Body size/strength
( ) Significant life changes

H ENVIRONMENT AND FACILITIES

( ) High noise levels
( ) Hot
( ) Cold
( ) Humidity
( ) Rain
( ) Snow
( ) Dark
( ) Wind
( ) Vibration
( ) Distractions/interruptions
( ) Cleanliness
( ) Hazardous/toxic substances
( ) Power sources
( ) Inadequate ventilation
( ) Unsafe work area
( ) Other (Give specific location and how it led to the incident) _____

_____

_____

J ORGANISATIONAL ISSUES

( ) Quality of support
( ) Inadequate Company policy
( ) Unions
( ) Morale
( ) Other (How did these factors lead to the incident?) _____

_____

_____

K SUPERVISION

( ) Poor planning/organisation of tasks
( ) Inadequate prioritisation of tasks
( ) Inadequate delegation/assignment of task
( ) Unrealistic expectations
( ) Excessive supervision
( ) Other (Explain how these factors lead to the incident)

_____

_____

L COMMUNICATIONS

( ) Between departments
( ) Between people
( ) Between shifts
( ) Between shift and supervisor
( ) Between supervisor and manager
( ) Other (Explain how these factors lead to the incident)

_____

_____

M ANY OTHER FACTORS

_____

_____

_____

SECT. 4 CORRECTIVE ACTIONS

A ARE THERE ANY CURRENT PROCEDURES AND/OR POLICIES IN YOUR ORGANISATION INTENDED TO PREVENT THIS INCIDENT, BUT DIDN'T?

( ) Operational Instructions. Specify: _____

_____

_____

( ) Company regulations. Specify: _____

_____

_____

( ) Inspection schedules. Specify: _____

_____

_____

( ) Engineering/maintenance/training manuals. Specify: _____

_____

_____

( ) Inter-company bulletins/letters. Specify: _____

_____

_____

( ) Any other instruction/regulation or policy document. Specify: _____

_____

_____

B LIST CORRECTIVE ACTIONS SUGGESTED OR TAKEN AT LOCAL LEVEL

_____

_____

_____

_____

_____

C OTHER CORRECTIVE ACTIONS SUGGESTED

_____

_____

_____

_____

_____

Signed: Name

Signed: Name

Date:

NOTE: This proforma has been adapted and amended from an example provided by the Boeing Airplane company whose co-operation in granting permission to reproduce this item is hereby acknowledged.

Boeing wish it to be stressed that this proforma, (or any adaptation of it) is not designed or intended to be used in isolation but as part of a wider based system for incident investigation and follow up.